

Preliminary Ecological Appraisal and Roost Assessment

Survey site:

Little Orchard, Dagbrook Lane, Henfield, West Sussex, BN5 9SH

Client:

Mr and Mrs Miller

Survey date:

26th August 2025

Project:

This report is prepared to inform a planning application with the Horsham District Council. The proposal is described as: Demolition of existing dwelling and erection of a replacement dwelling.

PEA survey methodology and legislation can be found in the Arbtech Supplement: [PEA Methodology and Legislation - 2024.](#)

PRA survey methodology and legislation can be found in the Arbtech Supplement: [PRA Methodology and Legislation - 2024.](#)

The survey results and recommendations contained within this report are valid for 18 months. An updated site visit may be required if the report is to be used any longer than 18 months after completion.

Site Location and Context

The survey site is centred on National Grid Reference TQ 21084 14920 and has an area of approximately 0.41ha.

The site is characterised by one residential building, vegetated gardens, sealed surfaces, scattered trees and hedgerows. The site is surrounded by large tree-lined fields and occasional residential dwellings. The wider landscape comprises a mix of rural and urban areas, such as pockets of deciduous woodland and arable fields with small towns and villages scattered throughout. For example, Nep Town is located 520m to the north, while the South Downs National Park is located 1315m south. Several small streams and ponds can be found nearby. Such features likely enhance the area for a variety of species, including bats, amphibians and reptiles. The underlying geology comprises mudstone of the Weald Clay formation. The overlying soils comprise slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils, suited to lowland seasonally wet pastures and woodlands.

The site has not been subject to previous surveys.

Survey Details

The site survey was undertaken by Harry Switala BSc (Hons), MSc, Graduate Ecologist [Accredited Agent on Natural England Bat Licence Number: 2024-12552-CL18-BAT].

Date of survey	Temperature (°C)	Humidity (%)	Cloud Cover (%)	Wind (km/h)	Rain
26/08/2025	21	76	75	0	None

Executive Summary

- ❖ Two bat emergence/re-entry surveys are required on B1 during the active bat season (May – September) to confirm presence/likely-absence of bats roosting in or on the building. These survey visits should be completed during the optimal survey period mid-May to August inclusive. The survey visits should be at least three weeks apart.
- ❖ Precautionary working methods have been recommended for birds, reptiles, common amphibians and hedgehogs.

Survey limitations

It should be noted that whilst every effort has been made to describe the baseline conditions within the survey area, and evaluate these features, this report does not provide a complete characterisation of the site. This assessment provides a preliminary view of the likelihood of protected species being

present. This is based on suitability of the habitats on the site and in the wider landscape, the ecology and biology of species as currently understood, and the known distribution of species as recovered during the searches of historical biological records.

A biological records data search has not been undertaken. However, given the location of the site, the nature of the habitats present and the assessed suitability of the site for protected or notable species, it is not anticipated that the purchase of biological records data will add any significant weight or alter the conclusions and recommendations outlined in this report.

Ecological Survey Factor Conclusion, Impact or Recommendations	Detailed using desk study and site survey (carried out under good weather conditions). Any specific limitations noted within relevant section. This table may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.
Habitats and plants (see location map in appendix 1, habitat map in appendix 2, BERS plan in appendix 3, ponds map in appendix 4 proposal plan in appendix 5 and photos in appendix 6). Botanical species are described with reference to the DAFOR scale (D = Dominant; A = Abundant, F = Frequent, O = Occasional, R = Rare).	
<i>Summary of Survey Findings</i> <i>(UKHab codes used)</i>	<u>Urban: Developed Land, Sealed Surface (Residential Building) [u1b5 818]</u> There are two buildings on site. B1 is the residential dwelling. B2 is an outbuilding. Buildings are further detailed in the bat table below. <u>Urban: Developed Land, Sealed Surface [u1b6] – Figure 1</u> Sealed surfaces are present acting as parking spaces, patios and the access road. Sealed surfaces are not subject to condition assessments. <u>Urban: Built-up Areas and Garden – Vegetated Garden with Scattered Trees [u1 828 32] – Figures 2-13</u>

The majority of the site is dominated by modified grasslands, acting as an amenity garden, exhibiting a uniform sward height (average ~10cm). The total area of this habitat measures at 764m². A full species list is provided in the table below.

Group	Common Name	Scientific Name	DAFOR
Grasses	Creeping bent	<i>Agrostis stolonifera</i>	Frequent
	Common bent	<i>Agrostis capillaris</i>	Rare
	False oat grass	<i>Arrhenatherum elatius</i>	
	White clover	<i>Trifolium repens</i>	Frequent
Other	Dandelion	<i>Taraxacum officinale agg.</i>	
	Self-heal	<i>Prunella vulgaris</i>	Occasional
	Common fleabane	<i>Pulicaria dysenterica</i>	
	Lambs ear	<i>Stachys byzantina</i>	
	Northern hawks beard	<i>Crepis mollis</i>	
	Dock sp.,	<i>Rumex spp.</i>	
	Thistle sp.,	<i>Cirsium spp.</i>	
	Common ragwort	<i>Jacobaea vulgaris</i>	

There are 18 trees located within the red line boundary. A full species list is provided in the table below.

Tree Number	Species	DBH (mm)
T1	Grey willow	120
T2	Ash	160
T3	Oak	120
T4	Ash	170
T5	Blackthorn	90
T6	Blackthorn	90

T7	Blackthorn	100
T8	Plum	85
T9	Ash	100
T10	Ash	185
T11	Crab apple	80
T12	Common white birch	110
T13	Ash	140
T14	Ash	130
T15	Oak	80
T16	Ash	240
T17	Ash	220
T18	Oak	310

Condition Assessment (assessed using the 'Individual Trees' habitat type condition assessment sheet) (*Please note that only T18 has been condition assessed as the remaining trees are classified as small trees*):

- A. The tree is a native species (or at least 70% within the block are native species). **PASS**
- B. The tree canopy is predominantly continuous (individual trees automatically pass this criterion). **PASS**
- C. The tree is mature (or more than 50% within the block are mature). **FAIL**
- D. There is little or no evidence of an adverse impact on tree health by human activities. **PASS**
- E. Natural ecological niches for vertebrates and invertebrates are present. **PASS**
- F. More than 20% of the tree canopy area is oversailing vegetation beneath. **PASS**

Passes 5 of 6 criteria, therefore achieves **GOOD** condition.

Native Hedgerow: Other Native Hedgerow [h2a6] – Figure 14

	Located along the northern periphery of the garden is a 12m long native hedgerow. Species include OCCASIONAL hawthorn, blackthorn and bramble. The hedgerow measures 3m tall and 1m wide. There is no gap between the base of the hedgerow and the ground, however gaps make up more than 10% of the total length. Condition Assessment (assessed using the 'Hedgerow' habitat type condition assessment sheet): A. 1. Average height is more than 1.5m along length. PASS 2. Average width is more than 1.5m along length. FAIL B. 1. Gap between ground and base of canopy is less than 0.5m for more than 90% of the length. PASS 2. Gaps make up less than 10% of the total length and no canopy gaps are larger than 5m. FAIL C. 1. More than 1m width of undisturbed ground with perennial herbaceous vegetation for >90% of length. FAIL 2. Species indicative of nutrient enrichment of soils dominate less than 20% cover of the area of undisturbed ground. PASS D. 1. More than 90% of the hedgerow is free of invasive non-native plant species. PASS 2. More than 90% of the hedgerow is free of damage caused by human activities. FAIL No more than 4 failures in total and no more than one failure in any functional group, therefore achieves MODERATE condition. <u>Local Notable Habitats</u>
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	The site contains native hedgerows which is listed as a habitat of principal importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006). Other habitats within the site are common and widespread and have low ecological value. A further six notable habitats are present within 2km, the closest being deciduous woodland located 140m south of the site. Coastal and floodplain grazing marsh (360m west), traditional orchards (470m southeast), ancient woodland (855m southeast), woodpasture/parkland (875m southeast) and lowland fens (1715m southwest) are also located within 2km of the site.
<i>Foreseen Impacts</i>	<u>On-site Habitats</u> The proposed development will result in the loss of approximately 67m² of vegetated garden. This could result in a net loss in biodiversity at the site. <u>Notable Habitats</u> No impacts to any notable habitats are anticipated due to the small scale and distance of the proposed development from such habitats as well as the urban location of the site with surrounding physical barriers.
<i>Recommendations</i>	<u>On-site Habitats</u> Retained trees and hedgerows should be protected in line with the measures outlined in the British Standard "Trees in Relation to Design, Demolition and Construction to Construction - Recommendations" (BS 5837) (2012). The project is unlikely to trigger the requirement for a biodiversity net gain assessment as it falls under one of the exemptions (state exemption e.g. self-build & custom build etc). <u>Compensation/Enhancements:</u> The following habitat creation/enhancement measures should be incorporated: ❖ Planting of flowering/fruited native trees, shrubs, and hedgerows.

	<u>Notable Habitats</u> None required.													
Locality and Designated Sites														
Summary of Survey Findings	<u>On-site Designations</u> The site is not subject to any designation.													
	<u>Statutory and Non-Statutory Designated Sites (within 2km/1km)</u> Details of statutory sites within a 2km radius retrieved from the MAGIC database are detailed in the table below. The presence of non-statutory designated sites within a 2km radius of the site cannot be determined without biological records data from Sussex Biodiversity Record Centre.													
	<table border="1"> <thead> <tr> <th colspan="2" data-bbox="533 665 712 746">Designated Site Name</th><th data-bbox="723 665 896 746">Distance From Site</th><th data-bbox="907 665 2027 746">Reasons for Notification from Natural England/GiGL</th></tr> </thead> <tbody> <tr> <td data-bbox="533 750 712 997" rowspan="2"></td><td data-bbox="723 750 896 997">South Downs National Park</td><td data-bbox="907 750 1075 997">1315m south</td><td data-bbox="1086 750 2027 997">The South Downs is a National Park for ecological reasons because it contains a rich mosaic of habitats — including chalk grasslands, ancient woodlands, heathlands, rivers, and coastal ecosystems — that support rare and endangered species. Its chalk grasslands are among the most biodiverse habitats in Western Europe, hosting orchids, butterflies, and specialist plants found nowhere else. The park also plays a key role in protecting water resources, maintaining soil health, and providing wildlife corridors in an otherwise developed region of southern England.</td></tr> <tr> <td data-bbox="723 1000 896 1297">Brighton and Lewes Downs Biosphere Reserves</td><td data-bbox="907 1000 1075 1297">1260m south</td><td data-bbox="1086 1000 2027 1297">The Brighton and Lewes Downs is designated as a UNESCO Biosphere Reserve because it represents a unique blend of natural beauty, rich biodiversity, and sustainable human activity. Stretching from the chalk downland of the South Downs to the vibrant coastline, it supports rare habitats such as chalk grasslands, ancient woodlands, and marine environments that are home to many endangered species. At the same time, it encompasses a large urban population in Brighton & Hove, making it an important place for promoting sustainable living, conservation, and community engagement. This balance of people, nature, and culture is what makes it a model area for a biosphere reserve.</td></tr> </tbody> </table>			Designated Site Name		Distance From Site	Reasons for Notification from Natural England/GiGL		South Downs National Park	1315m south	The South Downs is a National Park for ecological reasons because it contains a rich mosaic of habitats — including chalk grasslands, ancient woodlands, heathlands, rivers, and coastal ecosystems — that support rare and endangered species. Its chalk grasslands are among the most biodiverse habitats in Western Europe, hosting orchids, butterflies, and specialist plants found nowhere else. The park also plays a key role in protecting water resources, maintaining soil health, and providing wildlife corridors in an otherwise developed region of southern England.	Brighton and Lewes Downs Biosphere Reserves	1260m south	The Brighton and Lewes Downs is designated as a UNESCO Biosphere Reserve because it represents a unique blend of natural beauty, rich biodiversity, and sustainable human activity. Stretching from the chalk downland of the South Downs to the vibrant coastline, it supports rare habitats such as chalk grasslands, ancient woodlands, and marine environments that are home to many endangered species. At the same time, it encompasses a large urban population in Brighton & Hove, making it an important place for promoting sustainable living, conservation, and community engagement. This balance of people, nature, and culture is what makes it a model area for a biosphere reserve.
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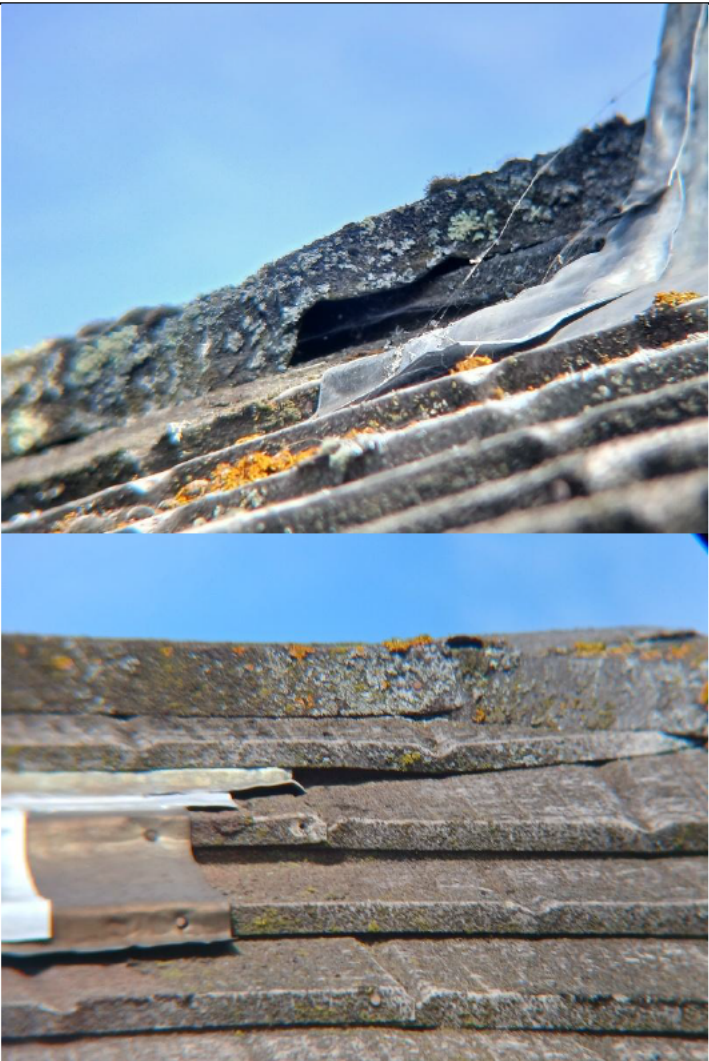
	The site lies within the impact risk zone for the Breeding Hill to Newtimber Hill Site of Special Scientific Interest (SSSI). The proposed development type is not listed as a possible high risk with regards to this designation. <u>National Network Sites (within 5km)</u> No national network sites (SAC, SPA, Ramsar) are located within 5km.
<i>Foreseen Impacts</i>	<u>On-site designations</u> No impacts foreseen. <u>Statutory and Non-statutory Designated Sites</u> The site lies within the impact risk zone for the Beeding Hill to Newtimber Hill Site of Special Scientific Interest (SSSI). The proposed development type is not listed as a possible high risk with regards to this designation. However, this development site is within the Sussex North Water Supply Zone. Within this zone, proposals that would lead to an increase in water demand may have a likely significant effect on the qualifying features of the Arun Valley Special Area of Conservation (SAC), Special Protection Area (SPA) and Ramsar site through reduced water levels.
<i>Recommendations</i>	<u>On-site Designations</u> None required. <u>Statutory and Non-statutory Designated Sites</u> Natural England advises that such development proposals require a Habitats Regulations Assessment (HRA) to consider the impacts, alone and in combination with other plans/projects, proceeding to appropriate assessment stage where likely significant effects cannot be ruled out.
<u>Invasive / Non-native Species</u>	
<i>Summary of Survey Findings</i>	No problematic invasive and non-native species recorded on site.

Foreseen Impacts	N/A														
Recommendations	No further surveys but remain vigilant.														
Bats															
Summary of Survey Findings	<u>EPSL Data and Local Records</u> Details of granted European Protected Species Licenses (EPSLs) for bats within a 2km radius retrieved from the MAGIC database are detailed in the table below. <table><tr><th>EPSL Reference</th><th>Bat Species Affected</th><th>Distance From Site</th><th>Impacts Allowed by Licence</th></tr><tr><td>2017-29484-EPS-MIT</td><td>Common pipistrelle and soprano pipistrelle</td><td>810m northeast</td><td>Destruction of a resting place</td></tr><tr><td>2019-38766-EPS-MIT</td><td>Common pipistrelle and soprano pipistrelle and brown long eared bat</td><td>1710m southeast</td><td>Destruction of a resting place and damage of a breeding place</td></tr></table> There are no Special Areas of Conservation designated for bats within 10km of the site. <u>Foraging and Commuting Habitat</u> Modified grasslands, scattered trees, and the linear hedges on site provide suitable albeit limited habitats for foraging and commuting bats. These could also be used by bats dispersing from nearby roosts outside of the site and commuting around the area. However, the site is unlikely to represent a significant foraging or commuting resource for bats in the context of the wider landscape. Habitats in the wider landscape, such as woodland copses, hedge-lined fields, and the South Downs National Park provide more ideal habitats for foraging and commuting bats. <u>Roosting Habitat</u> Buildings and trees to be impacted by the proposed development are assessed for their suitability to support roosting bats below. There are a total of two buildings on site; the main dwelling (B1), and one outbuilding (B2). Both buildings were			EPSL Reference	Bat Species Affected	Distance From Site	Impacts Allowed by Licence	2017-29484-EPS-MIT	Common pipistrelle and soprano pipistrelle	810m northeast	Destruction of a resting place	2019-38766-EPS-MIT	Common pipistrelle and soprano pipistrelle and brown long eared bat	1710m southeast	Destruction of a resting place and damage of a breeding place
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	surveyed as these will be impacted by the proposed development. No trees are to be removed as a result of the development. No evidence of roosting bats was identified on or within B1 or any of the surveyed trees on-site.
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B1 Building Description		Photographs
<i>Summary</i> B1 is a single storey brick built residential dwelling. The walls are clad with UPVC panels along all elevations. The windows and doors are UPVC framed. There are UPVC soffits along all elevations. The roof is multi structured with hipped and gabled ended sections. The tiles are concrete and interlocking. There is one chimney present. There is one internal void within B1 (see below). Potential bat droppings were identified within the loft void however DNA testing revealed these to be pygmy shrew (Ecotype Genetics, 2025). The building has moderate habitat value.		
Feature	Condition/Description/Suitability	Photograph(s)

Brick built walls. UPVC cladding present on all elevations.	Condition/Description UPVC panels are tightly fitting and flush with the building. Suitability/Access/Evidence of Bats N/A	
One chimney sealed with lead flashing.	Condition/Description Tightly sealed with no gaps. Suitability/Access/Evidence of Bats N/A	

Clay interlocking tiles.	Condition/Description Generally, in good condition, however there are several locations whereby missing mortar or a slightly raised tile has produced a gap. Larger gaps are also present at four locations beneath the ridge tiles. Suitability/Access/Evidence of Bats Gaps could be utilised by crevice dwelling species and may provide access into the internal void. 	
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UPVC soffits	Condition/Description Tightly sealed with no gaps or cracks. Suitability/Access/Evidence of Bats N/A	
UPVC framed window/doors	Condition/Description Tightly sealed. Suitability/Access/Evidence of Bats N/A	

Internal voids	Condition/Description L1 is an rectangular shaped loft that measures 12.5m long, 5.5m wide and 2.3m tall from the floor to the ridge. Conditions: 27.5°C, 51.1% Its roof is lined with bitumen felt internally and its floors insulated with mineral wool. The loft is supported by timber beams. There are no apparent ingress points. There are a few stored household items within the loft. Suitability/Access/Evidence of Bats Low numbers (<10) of potential bat droppings were found on the floor of the loft scattered around. Samples were collected for DNA analysis and results revealed these to be pygmy shrew (Ecotype Genetics, 2025). No apparent ingress points are present however, the bitumen felt was not fully sealed and therefore access into the loft could be provided via missing mortar and raised tiles from the roof. Insect remains especially wings were also found scattered around the loft.	
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B2 Building Description	Photographs
<i>Summary</i> B2 is a single storey timber built outbuilding. The walls are timber clad along all elevations. There are well sealed timber bargeboards along all elevations. The roof is gable ended and lined with well-sealed bitumen felt. There is one internal void within B2, used for the storage of garden equipment. One window allows the ingress of light into B2. No evidence of bats was found on or within B2. The building has negligible habitat value.	

<i>Foreseen Impacts</i>	<u>Roosting Habitat [Buildings]</u> The proposed development will result in the demolition of this building. This could result in the destruction of any bat roosts present and could cause disturbance, death or injury to bats. <u>Roosting Habitat [Trees]</u> No trees are being felled. All trees will be retained and therefore no impacts to roosting bats are anticipated. <u>Foraging and Commuting Habitat</u> The proposed development will result in the loss of small areas of approximately 67m² of vegetated garden but given their low value and the presence of more extensive areas of foraging and commuting habitat in the locality, this is likely to be inconsequential for bats. <u>Artificial Lighting</u> The proposed development may lead to an increase in the amount of current lighting of surrounding habitats or the retained building without mitigation. This may disturb commuting bats.
<i>Recommendations</i>	<u>Roosting Habitat [Buildings]</u> Two bat emergence/re-entry surveys are required on B1 during the active bat season (May – September) to confirm presence/likely-absence of bats roosting in or on the building. These survey visits should be completed during the optimal survey period mid-May to August inclusive. The survey visits should be at least three weeks apart. Three surveyors are required to provide full coverage of the building's elevations to look for emerging/re-entering bats. Surveyors will be equipped with infrared cameras to see where any specific roost locations are located.

	If any bat roosts are confirmed from this survey schedule, a bat license would be required to demolish the buildings as it would involve the destruction of roosts. This is applied for with the help of a class 2 licensed bat ecologist after planning permission is granted, but before commencement of works. Lighting mitigation may be required based on the outcome of the night bat survey(s). No works to the property that may block or remove potential roosting features should be carried out until the required surveys have been completed. Undertaking such work beforehand could unlawfully affect bats if present and may compromise the validity of the surveys and hinder the planning application process. <u>Roosting Habitat [Trees]</u> In the unlikely event that a bat or evidence of bats is discovered during the development all work must stop and a bat licensed ecologist contacted for further advice. <u>Foraging and Commuting Habitat</u> No further surveys are required. <u>Artificial Lighting</u> A low impact lighting strategy will be adopted for the site during post-development which outlines the areas of the site that will be retained as dark corridors. Parameters can be found on the Bat Conservation Trust website: https://www.bats.org.uk/our-work/buildings-planning-and-development/lighting-2 <u>Suggested Biodiversity Enhancements</u> To be confirmed upon the completion of the bat emergence surveys.
Birds	
Summary of Survey Findings	<u>Buildings/Vegetation</u>

	No evidence of nesting birds was found on site during the surveys; however, birds could use the trees and hedgerows for nesting purposes. No habitat for schedule 1 birds was observed.
<i>Foreseen Impacts</i>	<u>Buildings/Vegetation</u> The proposed development could result in the destruction or the disturbance and subsequent abandonment of active bird nests.
<i>Recommendations</i>	<u>Buildings/Vegetation</u> Precautions should be taken with machinery and noise levels when working close to any retained trees/hedgerows so as not to disturb any nearby nesting birds during construction works. At least a 3-5m buffer should be created between any machinery and active nests until the young have fledged. <u>Suggested Biodiversity Enhancements</u> Installation of two bird boxes at the site – preferably two integrated swift bricks (considered to be universal nest bricks for small bird species) within the fabric of the building during construction. To be suitable for swifts, they will need to be placed at least 5m above ground level under the eaves of a building. Integrated nesting bricks are preferable to bird boxes; even if it cannot fulfil the height requirement for swifts, it will still be suitable for other passerine species. If the building material does not allow for integrated nesting bricks, two nest boxes mounted on the exterior of the building or on retained trees will also be acceptable. Nest bricks/boxes should be sheltered from prevailing wind, rain, and strong sunlight, and should be placed on an open aspect with no trees or large shrubs potentially obstructing flight paths.
Reptiles	
<i>Summary of Survey Findings</i>	<u>EPSL Data and Local Records</u> A review of the MAGIC database returned no granted EPSL records for protected reptiles within 2km of the site. <u>Wider Landscape</u>

	The nearby fragments of woodland, small streams and ponds are of elevated ecological value within the wider landscape and may represent important resources for local reptile populations. These habitats provide optimal foraging, commuting, and refuge opportunities for reptiles in the wider landscape. The presence of reptiles utilising these adjacent habitats cannot be discounted. <u>Habitat Suitability</u> Vegetated garden on site provides suitable albeit limited habitats for foraging and sheltering reptiles, however the site is isolated from wider suitable habitats as a result of the lack of rough grassland on site which limits the suitability of available habitats. Habitats on site are sub-optimal however are capable of supporting widespread reptiles in low numbers only. As such, whilst suboptimal, the presence of reptiles during vegetation clearance of the small area of vegetated garden could not be discounted.
<i>Foreseen Impacts</i>	Approximately 67m² of vegetated garden will be removed during construction. The loss of such habitats is likely to be inconsequential to local reptile populations owing to their low value and the presence of more extensive habitat locally. However, site clearance could result in the death or injury of reptiles, if present.
<i>Recommendations</i>	A precautionary working method will be implemented for widespread reptiles during construction, including the following measures: • Vegetation will be maintained at a short sward height (<5cm) to discourage reptiles. The vegetation can then be cleared to ground level and must be maintained at this level for the duration of construction to deter reptiles from the working area. • Any rubble piles will be dismantled by hand and debris and brash will be stored on pallets or removed from the site to prevent amphibians from utilising these areas. • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • Best practice pollution prevention measures will be implemented to minimise impacts to nearby habitats. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. • If any reptiles are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance.

	In the unlikely event that a reptile is identified, works must cease and advice must be sought from a suitably qualified ecologist. <u>Suggested Biodiversity Enhancements</u> No enhancement opportunities are applicable to the site due to the nature of the proposals.												
Amphibians													
Summary of Survey Findings	<u>EPSL Data and Local Records</u> A review of the MAGIC database returned two granted EPSL records for great crested newts within 2km of the site, detailed in the table below. There is no connectivity for great crested newts between the known EPSL and the site as they are separated by various urban infrastructure and arable land. <table><tr><th>EPSL Reference</th><th>Species Affected</th><th>Distance From Site</th><th>Impacts Allowed by Licence</th></tr><tr><td>EPSM2009-1258</td><td>Great crested newt</td><td>820m south</td><td>Destruction of resting and breeding place</td></tr><tr><td>2015-17216-EPS-MIT</td><td>Great crested newt</td><td>1380m northwest</td><td>Destruction of resting place</td></tr></table> <u>Aquatic Habitat Suitability</u> Great crested newts (GCN) exist in metapopulations and are known to utilise ponds and their connecting terrestrial habitat during their life cycle; great crested newts are typically found within terrestrial habitats up to 500m from breeding ponds (Langton et al. 2001). There are no ponds on site, however a review of aerial imagery (MAGIC and OS Maps) indicates the presence of 17 ponds within 500m of the site, the closest of which (P1) is located 7m north of the red line boundary. P1, P2, P3, P4, P5, P6, P7, P8, P9 and P10 are all located within 250m of the red line boundary and are considered well connected to the site due to an absence of definitive barriers to dispersal. However, all of these ponds are only well connected to the red line boundary that is comprised of the access	EPSL Reference	Species Affected	Distance From Site	Impacts Allowed by Licence	EPSM2009-1258	Great crested newt	820m south	Destruction of resting and breeding place	2015-17216-EPS-MIT	Great crested newt	1380m northwest	Destruction of resting place
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EPSM2009-1258	Great crested newt	820m south	Destruction of resting and breeding place										
2015-17216-EPS-MIT	Great crested newt	1380m northwest	Destruction of resting place										

	road to the site. As no impacts are anticipated to this portion of the site, connectivity of the ponds is considered in relation to the house and vegetated garden where the development will be taken place. With this considered, all ponds are located further than 250m from the development area. A pond map showing approximate pond locations is provided in Appendix 3. <u>Terrestrial Habitat Suitability</u> Hedgerows and vegetated gardens may provide foraging and sheltering opportunities for amphibians. Hibernation opportunities were identified on-site among the roots of trees and hedgerows. Common amphibian species such as frogs, on the other hand, have a wider terrestrial range in terms of movements and dispersal and are not as bound to ponds or water courses as great crested newts. Hedgerows, vegetated gardens and scattered trees on site provide suitable albeit limited habitats for foraging and sheltering amphibians. As such, the presence of common amphibians in low numbers could not be discounted.
<i>Foreseen Impacts</i>	When georeferencing the proposed development plans over scaled mapping of the site, it is noted that the development area is likely to result in the further loss or significant disturbance of 0.0067ha of suitable great crested newt habitat (i.e. vegetated garden). If great crested newts are present within any ponds this will constitute a loss of 0.0067ha further than 250m of a potential breeding pond. When completing the rapid risk assessment published by Natural England (Natural England 2015), the proposed development produces a Green risk score, which states: Offence Highly Unlikely.

	<table><tr><th>Component</th><th>Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)</th><th>Notional offence probability score</th></tr><tr><td>Great crested newt breeding pond(s)</td><td>No effect</td><td>0</td></tr><tr><td>Land within 100m of any breeding pond(s)</td><td>No effect</td><td>0</td></tr><tr><td>Land 100-250m from any breeding pond(s)</td><td>0.001 - 0.01 ha lost or damaged</td><td>0.005</td></tr><tr><td>Land >250m from any breeding pond(s)</td><td>No effect</td><td>0</td></tr><tr><td>Individual great crested newts</td><td>No effect</td><td>0</td></tr><tr><td colspan="2"></td><td>Maximum:</td></tr><tr><td colspan="2">Rapid risk assessment result:</td><td>0.005</td></tr></table>	Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score	Great crested newt breeding pond(s)	No effect	0	Land within 100m of any breeding pond(s)	No effect	0	Land 100-250m from any breeding pond(s)	0.001 - 0.01 ha lost or damaged	0.005	Land >250m from any breeding pond(s)	No effect	0	Individual great crested newts	No effect	0			Maximum:	Rapid risk assessment result:		0.005
Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score																							
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Individual great crested newts	No effect	0																							
		Maximum:																							
Rapid risk assessment result:		0.005																							
	Approximately 67m² of vegetated garden will be removed during construction. The loss of such habitats is likely to be inconsequential to local amphibian populations owing to their low value and the presence of more extensive habitat locally. However, site clearance could result in the death or injury of common amphibians, if present and crossing the construction zone.																								
Recommendations	Owing to the nature of the proposed development and the low potential for impacts to great crested newts, further surveys are considered to be disproportionate. A precautionary working method will be implemented for common amphibians during construction, including the following measures: • Vegetation will be maintained at a short sward height (<5cm) to discourage amphibians. The vegetation can then be cleared to ground level and must be maintained at this level for the duration of construction to deter amphibians from the working area. • Any rubble piles will be dismantled by hand and debris and brash will be stored on pallets or removed from the site to prevent amphibians from utilising these areas. • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • Best practice pollution prevention measures will be implemented to minimise impacts to nearby habitats. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations.																								

	- If any amphibians are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance. - In the unlikely event that a great crested newt is identified, works must cease and advice must be sought from a suitably qualified ecologist. <u>Suggested Biodiversity Enhancements</u> No enhancement opportunities are applicable to the site due to the nature of the proposals.
Badger	
<i>Summary of Survey Findings</i>	No badger setts were noted on site or within a 30m radius of the site. The site is considered unsuitable for badgers given the lack of suitable sett excavation areas/ground. Although managed modified grasslands make for suitable foraging and commuting habitats, field signs typical of badger activity were absent from the site with no established mammal trails, evidence of latrines, badger hair or push throughs. The site is enclosed by intact fences with no indication of damage, thus preventing ingress by badgers. As such, the presence of badgers has been discounted.
<i>Foreseen Impacts</i>	No impacts are anticipated on badgers as a result of the proposed development.
<i>Recommendations</i>	None required.
Riparian animals	
<i>Summary of Survey Findings</i>	A review of the MAGIC database returned no granted EPSL records for otters or water voles within 2km of the site. There are no water courses on or connected to the site. Although several small streams are located in close proximity to the site, there is limited connectivity to this river from the site due to the presence of heavily managed agricultural land and urban habitat such as buildings and roads. The site is enclosed by intact fences with no indication of damage, thus preventing ingress by riparian animals.
<i>Foreseen Impacts</i>	No impacts are anticipated on riparian animals as a result of the proposed development.
<i>Recommendations</i>	None required.

Hazel dormouse	
<i>Summary of Survey Findings</i>	<u>EPSL Data and Local Records</u> A review of the MAGIC database returned no granted EPSL records for hazel dormice within 2km of the site. <u>Habitat Suitability</u> The site features no habitats which might provide opportunities for hazel dormouse, such as established woodland or mature, native hedgerows as it is a privately managed vegetated garden. Given the wider context of the surrounding habitats, hazel dormice are unlikely to be present on site.
<i>Foreseen Impacts</i>	No impacts are anticipated on hazel dormice as a result of the proposed development.
<i>Recommendations</i>	None foreseen.
Invertebrates	
<i>Summary of Survey Findings</i>	The habitats present on-site, including lawns, hedgerows and trees, likely provide common invertebrates with opportunities to forage and shelter. The site contains no further notable habitats which may provide niches for specialised or protected invertebrates.
<i>Foreseen Impacts</i>	Approximately 67m ² of vegetated garden will be removed during construction. The loss of such habitats is likely to be inconsequential to local invertebrate populations owing to their low value and the presence of more extensive habitat locally.
<i>Recommendations</i>	No further surveys. <u>Suggested Biodiversity Enhancements</u> Enhancement opportunities for invertebrates include: ❖ Installation of insect hotels.

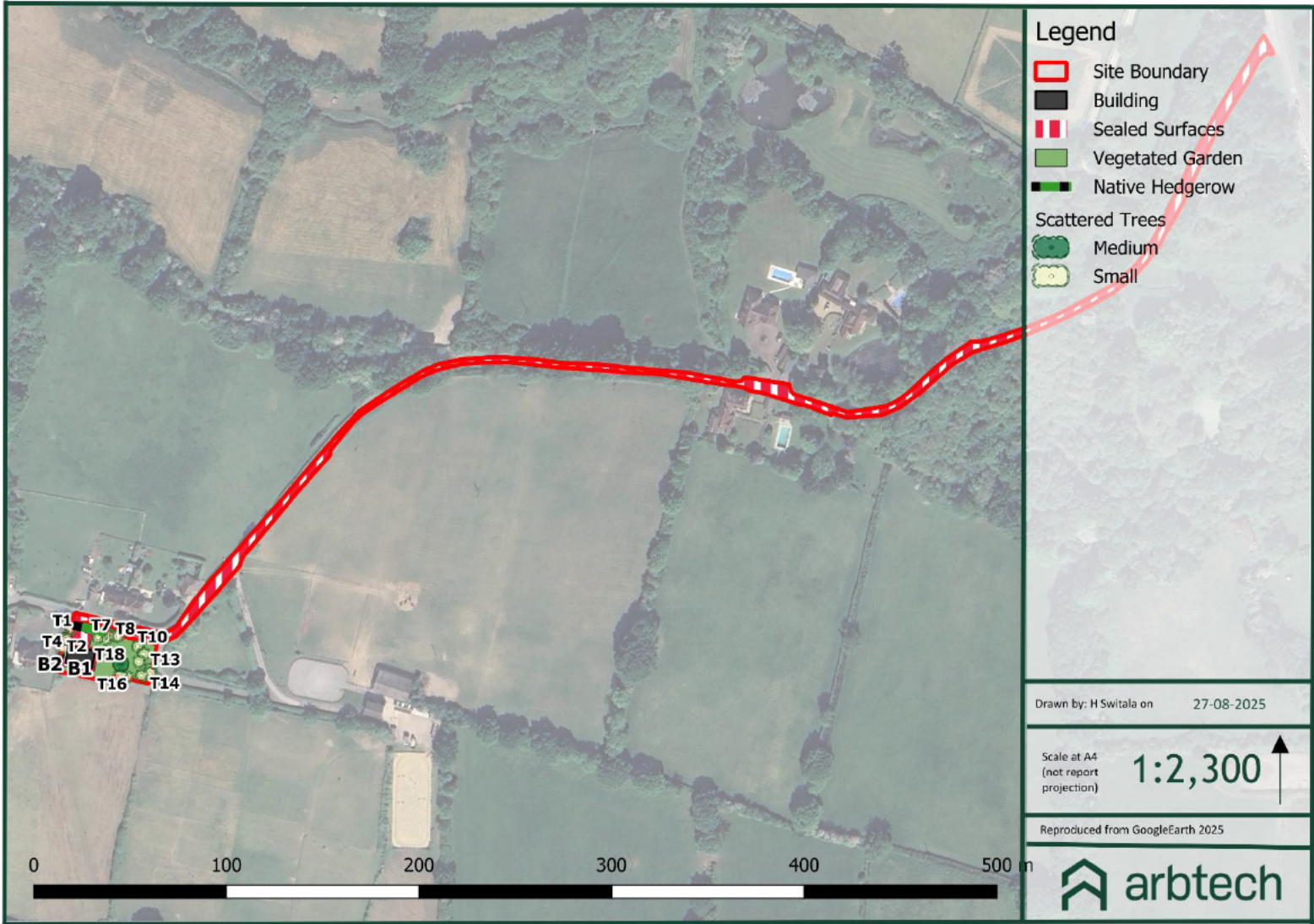
	❖ The incorporation of bee bricks (e.g. Ibstock BeeHabitat or similar alternative brand) into the fabric of the new buildings would provide sheltering opportunities for pollinators. These should be installed 0.5m above ground level on a south-facing elevation with no obscuring vegetation. ❖ Planting of native, pollinator-friendly (i.e. flowering and fruiting) species.
Other e.g. hedgehog	
<i>Summary of Survey Findings</i>	Hedgehogs are extremely mobile and highly adapted to urban landscapes. There is limited suitability for foraging, commuting, and sheltering hedgehogs on site within the vegetated gardens and hedgerows and their presence during works cannot be discounted.
<i>Foreseen Impacts</i>	Approximately 67m ² of vegetated garden will be removed during construction. The loss of such habitats is likely to be inconsequential to local hedgehog populations owing to their low value and the presence of more extensive habitat locally. However, construction activities could result in the death or injury of hedgehogs, if present.
<i>Recommendations</i>	A precautionary working method will be implemented during construction, including the following measures: • Vegetation will be maintained at a short sward height (<5cm) to discourage hedgehogs. The vegetation can then be cleared to ground level and must be maintained at this level for the duration of construction to deter hedgehogs from the working area. • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to retained habitats which hedgehogs could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. • If any hedgehogs are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance. <u>Suggested Biodiversity Enhancements</u>

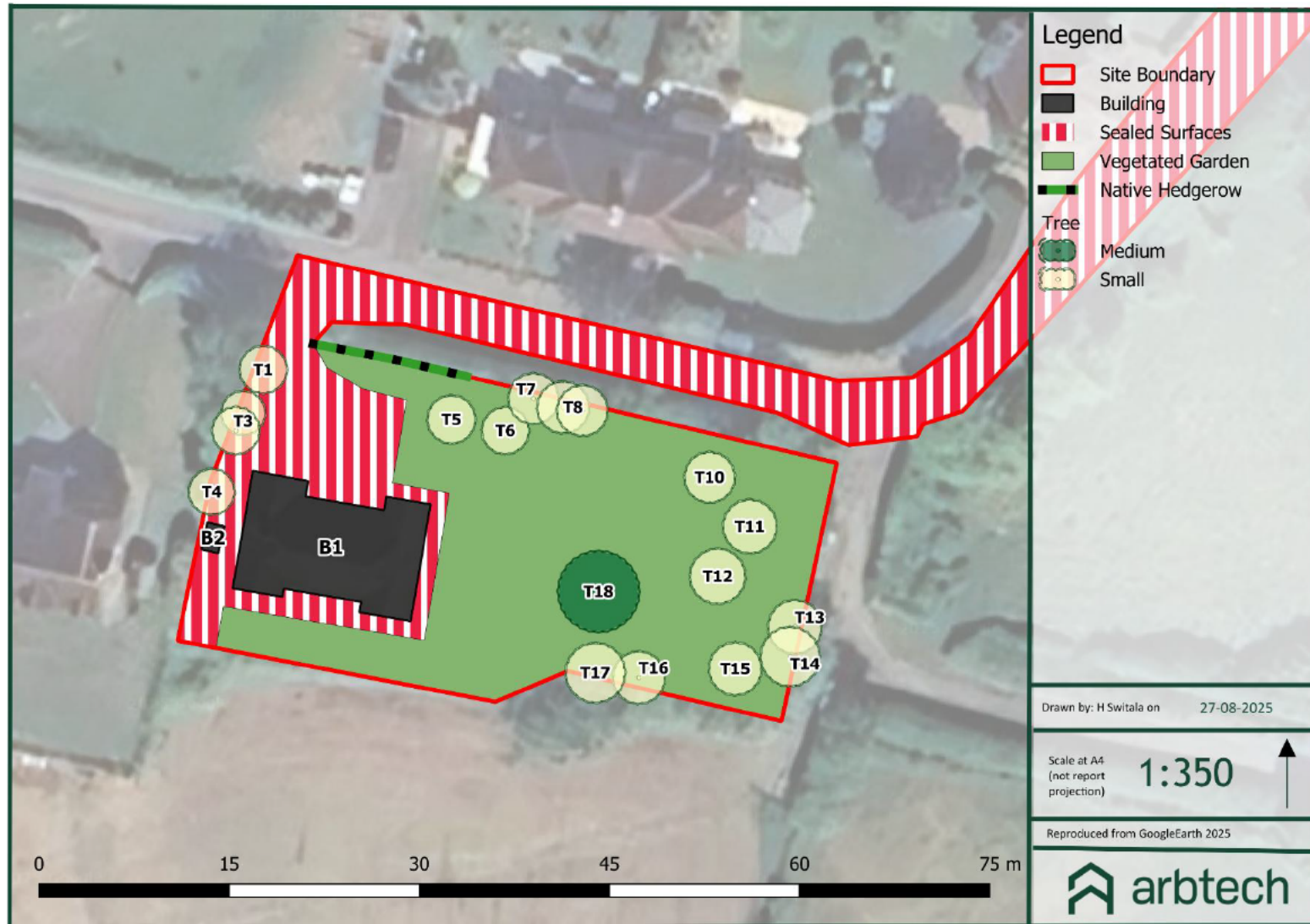
	The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for hedgehogs: • Planting fruit bearing trees and species-rich grassland to increase foraging opportunities. • Creation of brash piles or installation of hedgehog houses in shady areas. • Installation of gaps under boundary fencing to enable hedgehogs to move freely through the site.
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Appendix 1: Location Map

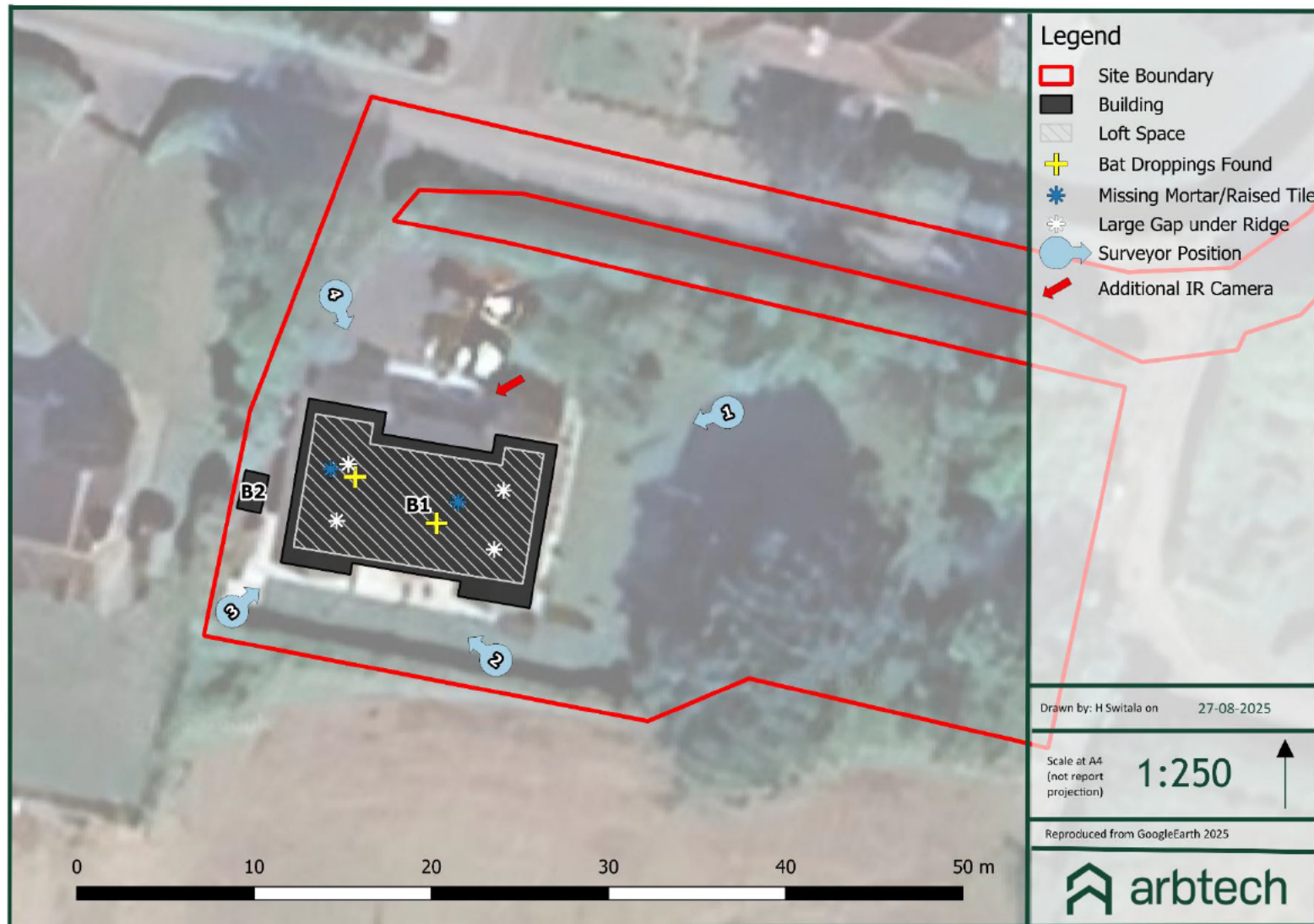


Appendix 2: Habitat Map

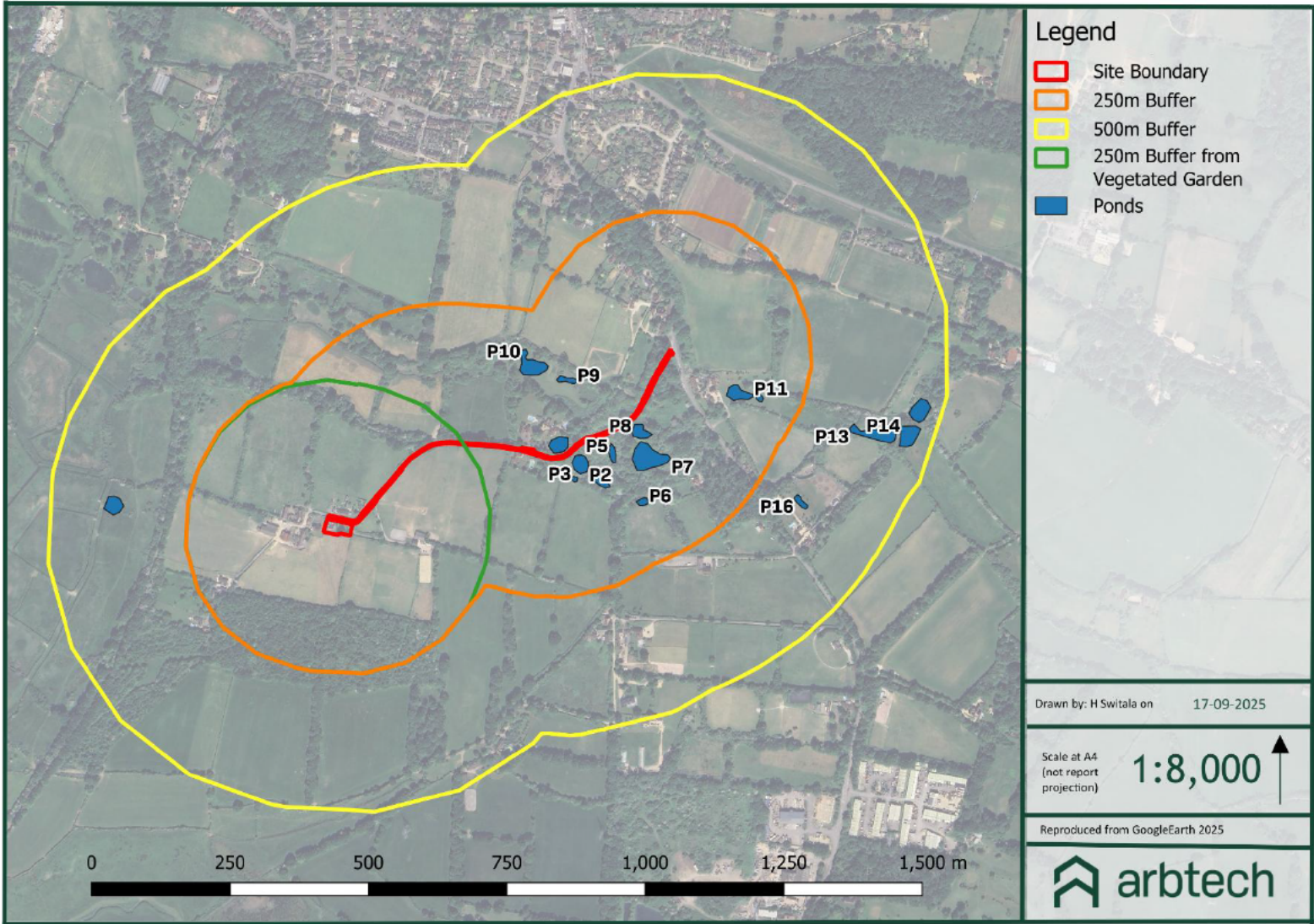




Appendix 3: BERS plan



Appendix 4: Ponds Map



Appendix 5: Proposed plan



Appendix 6: Photos



Figure 1. Sealed surfaces acting as parking spaces and patios.



Figure 2. Vegetated garden.

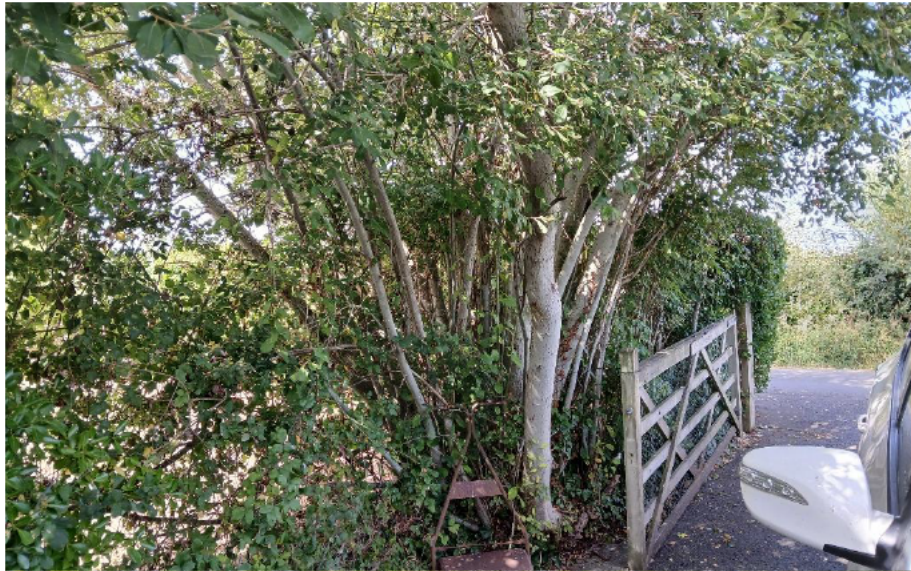


Figure 3. T1.



Figure 4. T2 and T3.

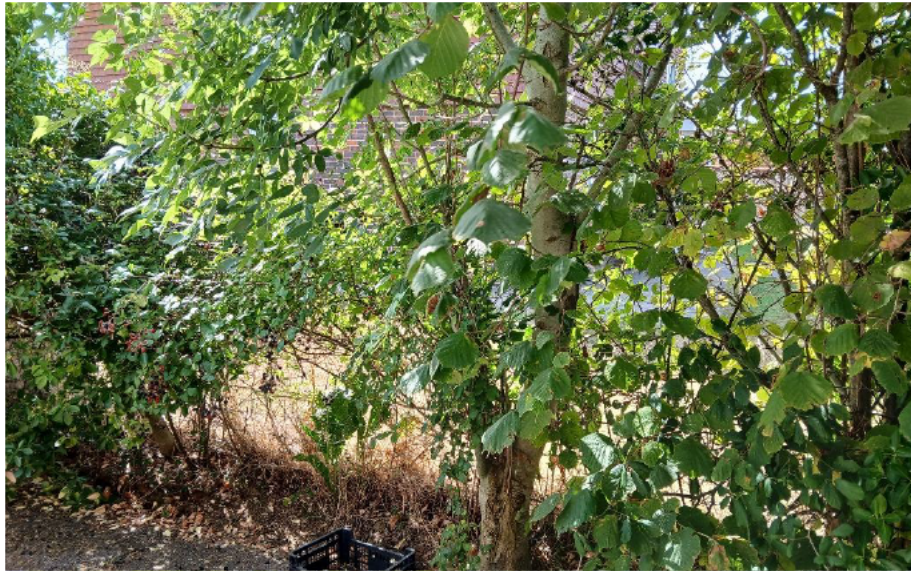


Figure 5. T4.



Figure 6. T5.



Figure 7. T6.



Figure 8. T7, T8 and T9.



Figure 9. T10.



Figure 10. T11 and T12.



Figure 11. T13, T14 and T15.



Figure 12. T16 and T17.

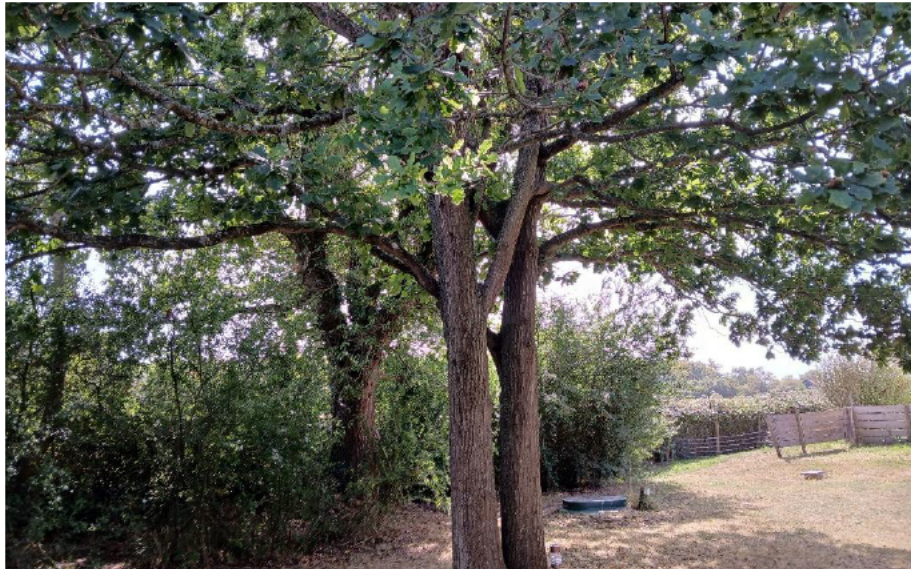


Figure 13. T18.



Figure 14. Native hedgerow.

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