

Preliminary Ecological Appraisal and Roost Assessment

Survey site:

Stanford End Farmhouse, Barge Lane, Reading, RG7 1SY

Client:

Stuart Mackay

Survey date:

10 July 2024, updated 01 February 2025

Project:

This report is prepared to inform a planning application with the Wokingham Borough Council. The proposal is described as:
The full renovation of the farmhouse and adjoining barns to create one 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 site survey was undertaken by Jamie-Lee Anderson, Consultant Ecologist (Accredited Agent on Natural England Bat Licence Number: 2019-41480-CLS-CLS)					
Date of survey	Temperature (°C)	Humidity (%)	Cloud Cover (%)	Wind (mph)	Rain
10/07/2024	16.6	81	100	14.1	None
An updated site visit was undertaken on the 1st of February 2025, to survey the western most boundary of the site, which was not included in the initial survey.					
Date of survey	Temperature (°C)	Humidity (%)	Cloud Cover (%)	Wind (mph)	Rain
01/02/2025	6	85	90	9	Occasional light drizzle

Background
In August 2022, Arbtech Consulting Ltd undertook a preliminary ecological appraisal and preliminary roost assessment (PEAPRA) at the site and found a confirmed brown long-eared bat maternity roost within the building (B1) and recommended three bat emergence and re-entry surveys (BERS). The BERS were carried out and confirmed the presence of a brown long-eared maternity roost in B1, as well as a common pipistrelle maternity roost in B1.

Ecological Survey Factor	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.
Conclusion, Impact or Recommendations	
Habitats and plants (see Habitat Map in Appendix 1, PRA Plan in Appendix 2, Location Plan in Appendix 3, Proposal Plan in Appendix 4 and Photos in Appendix 5).	
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>	Site Context The survey site is centred on National Grid Reference SU 70627 63396 and has an area of approximately 0.57ha.

<i>(UKHabs codes used)</i>	The site comprises four buildings including the main listed residential farmhouse and adjoining barns, grassland, hardstanding, scattered trees and hedgerows. It is situated approximately ~10km to the south of the city of Reading. Aerial imagery shows the local landscape to have a farmland character, dominated by arable land with occasional woodland areas in close proximity to the site. Water bodies can be found nearby including the river Loddon which runs approximately ~90m south-west of the site, enhancing the area for a variety of species, including bats, amphibians and reptiles. The site contains no habitats of principal importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006). Further notable habitats are present within 2km. Other habitats within the site are common and widespread and have low ecological value. The site also contains unmown grassland which is of good quality and could be of value to local wildlife populations (as detailed in subsequent sections of this table). The remaining habitats are common and widespread and have low ecological value. No protected or notable plant species were recorded during the survey. The soil on site is described as loamy and clayey floodplain soils with naturally high groundwater. The abundance of soil water was noted during the survey. The drainage is described as naturally wet. The soil is considered to have moderate fertility. The habitats associated with this soil type are wet flood meadows with wet carr woodlands in old river meanders. On-site habitat descriptions • Buildings – u1b5 ○ Four buildings on site were subject to a preliminary roost assessment (PRA). Each building and its construction are described below. • Other neutral grassland, unmanaged, scattered trees – g3c, 521, 32 ○ To the south and west of B1 is a field of grassland which has been left to grow (unmanaged). The sward length is variable and species composition is: ▪ D: Common Bent, Yorkshire fog, cocks' foot, perennial rye, clover ▪ A: Plantain, creeping buttercup ▪ F: Common bent, dandelion ▪ O: Wild morning glory, self-heal, yarrow, cow parsley, thistle, teasel ▪ R: Soft rush, common brome, agrimony ○ The sward length is varied, and an abundance of invertebrate activity was noted. ○ There are ten scattered trees throughout the grassland. Species comprise silver birch, willow, apple, whitebeam and spruce. These trees are not due to be impacted upon by the proposed development. There are six 'small' trees, three 'medium' trees and one 'large' tree, according to their diameter at breast height measurements. • Modified grassland – g4 ○ There is a large section of modified grassland to the west of the site. This grassland is part of arable farmland. Species composition is: ▪ D: Yorkshire fog, cock's foot ▪ A: Creeping bent, rough meadowgrass
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	▪ F: Docks, white clover, timothy ▪ R: Dandelion ○ To the west of the site, there are scattered sections of modified grassland, of similar species composition. • Hedgerow, ditch – h2b, 50 ○ There is a hedgerow at the edge of the garden, separating the two grassland types. There is also a ditch adjacent to this hedgerow (discussed below). Species composition is dominant bramble, occasional privet, dogwood, grape and beech. The hedge is not due to be affected by the proposed development. ○ Adjacent to the hedgerow is a ditch. The ditch is heavily shaded, with no aquatic vegetation noted. The water level of the ditch was low (<20cm). • Bramble scrub – h3b ○ There are scattered self-seeded well established bramble plants throughout the site. • Fence – u1e ○ There is a metal pole and wire fence along the south and west boundaries of the site. • Developed land; sealed surface – u1b6 ○ There are areas of hardstanding along the north and east of the buildings. The hardstanding is comprised of tarmac and stone and provides vehicular access and parking. • Artificial unvegetated, unsealed surface – u1c ○ There is an area of gravel and dirt surrounding the northern most building. There is no vegetative growth. Local notable habitats There are multiple patches of local notable habitats near the site. The closest is an area of lowland meadow located ~0.85m to the south-west, with a patch of floodplain grazing marsh located ~0.33km to the north-west. The grassland and hedgerows on-site likely have functional connectivity to these patches of lowland meadow and grazing marsh, given their proximity to the site. Lowland meadow and floodplain grazing marsh are classed as priority habitats under Section 41 of the Natural Environment and Rural Communities (NERC) Act, 2006. Further priority habitats are present within 2km of the site, including: lowland meadow (85m south), traditional orchards (~260m south), coastal and floodplain grazing marsh (~265m south), ancient woodland (~460m southeast), deciduous woodland (~460m southeast), and good quality semi-improved grassland (~1310m south).
<i>Foreseen Impacts</i>	On-site habitats The proposed development will result in the loss of a small amount of grassland. This could result in a net loss in biodiversity at the site. Notable habitats No direct impacts to any notable habitats will occur as a result of the proposed development. However, due to the proximity of the site to lowland meadow and floodplain grazing marsh (~85m south-west and ~0.33km north-west), indirect effects (e.g. pollution, dust, litter, surface run off, etc.) could occur during construction.

<i>Recommendations</i>	On-site habitats Retained trees 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 development will be required to demonstrate a minimum 10% net gain in biodiversity through use of the latest Defra Biodiversity Metric as to comply with legislation (Environmental Act 2021). It is noted that the development is not exempt from demonstrating a compliant biodiversity net gain, as per current Natural England Guidance: https://www.gov.uk/guidance/biodiversity-net-gain-exempt-developments. Notable habitats Best practice measures to minimise the possibility of pollution affecting the nearby ancient woodland must be implemented during construction. A Construction Environment Management Plan (CEMP) may be required for this.
Locality and Designated Sites	
<i>Summary of Survey Findings</i>	On-site designations The site is not subject to any designation. Statutory designated sites (within 2km) There is one statutory site within 2km of the site, being the Stanford End Mill and River Loddon SSSI (Site of Special Scientific Interest) located ~85m to the south-west of the site. The site lies within the impact risk zone for the Stanford End Mill and River Loddon SSSI; however, the proposed development type is not listed as a possible high risk for this designation. Non-statutory designated sites The presence of non-statutory designated sites within 2km of the site cannot be established without data from Thames Valley Biological Records Centre.
<i>Foreseen Impacts</i>	On-site designations No impacts foreseen. Statutory and non-statutory designated sites No direct impacts to any designated sites will occur as a result of the proposed development. However, due to the proximity of the site to the Stanford End Mill and River Loddon SSSI and the possible presence of non-statutory designations in the vicinity, indirect effects such as pollution could occur during construction.
<i>Recommendations</i>	On-site designations None required. Statutory and non-statutory designated sites

	Best practice measures to minimise the possibility of pollution affecting the nearby Stanford End Mill and River Loddon SSSI must be implemented during construction. A Construction Environment Management Plan (CEMP) may be required for this.																		
Invasive / Non-native species																			
Summary of Survey Findings	No problematic invasive and non-native species recorded on site.																		
Foreseen Impacts	N/A																		
Recommendations	No further surveys but remain vigilant.																		
Invertebrates																			
Summary of Survey Findings	The habitats present on-site, including unmanaged grassland, retained deadwood, scattered trees and hedgerows, 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. High insect activity was noted during the survey, with an abundance of dragonfly, day moths and bees noted.																		
Foreseen Impacts	A small area of grassland 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.																		
Recommendations	No further surveys.																		
Bats																			
Summary of Survey Findings	EPSL data A search of the magic.gov.uk database for granted EPSLs within a 2km radius of the site has been completed. Displaced bats from licensed sites <2km away from the survey site will find alternative habitat either within the mitigation measures implemented as part of the licence or will relocate to other known roosts sites in close proximity to the licensed site. There are three EPSLs within a 2km radius of site as detailed 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>EPSM2013-6668</td><td>Brown long-eared bat</td><td>1.56km</td><td>Destruction of a breeding and resting place</td></tr><tr><td>EPSM2013-5997</td><td>Common pipistrelle & soprano pipistrelle</td><td>1.79km</td><td>Destruction of a resting place</td></tr><tr><td>EPSM2012-4757</td><td>Common pipistrelle, brown long-eared and serotine</td><td>0.88km</td><td>Destruction of a breeding and resting place</td></tr></table>			EPSL reference	Bat species affected	Distance from site	Impacts allowed by licence	EPSM2013-6668	Brown long-eared bat	1.56km	Destruction of a breeding and resting place	EPSM2013-5997	Common pipistrelle & soprano pipistrelle	1.79km	Destruction of a resting place	EPSM2012-4757	Common pipistrelle, brown long-eared and serotine	0.88km	Destruction of a breeding and resting place
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Foraging and commuting habitat																			

Habitats recorded on site are assessed to provide foraging and commuting opportunities for bats in the form of grassland, adjacent arable land, scattered tree, and hedgerows. These habitats are likely to provide micro-climatic conditions that support invertebrates that will in turn provide foraging opportunities for local bat populations. Most notably, the hedgerows on site are mature and extend beyond the site adding to the continuity of vegetated linear features present in the wider landscape. Bats are well known to utilise linear features to aid navigation whilst travelling between foraging resources and roost sites.

Roosting habitat

Buildings and trees to be impacted by the proposed development are assessed for their suitability to support roosting bats below. Evidence of roosting bats was found within B1. No evidence of roosting bats was identified on or within B2-B4 inclusive.

Building B1

B1 is a grade two listed building, it is a two-storey, brick-built building (Figure 1). The brickwork around the building appears in poor condition with gaps and cracks present in which bats can roost. The building has a multi-pitched and hipped roof, clad in clay roof tiles. The roof tiles are in poor condition, with many raised tiles under which bats could roost. The doors and window frames are of timber construction, and there are several gaps in between the frames and the brickwork which could be utilised by crevice dwelling bats. There are two chimneys located on B1. There are gaps in the tiles at the base of the chimneys which may provide ingress points into the loft void. There is a single storey side extension of B1 (see Appendix 5). The roof is in poor condition and has many raised tiles suitable for roosting bats.



Figure 1: B1 – Northeast elevation.

There is one separate loft space within the interior of B1.



Figure 2: L1 – Loft space within the interior of B1.

Loft Space 1 - L1 (Figure 2)

It is constructed from original timber beams, including the ridge beam, rafters and purlins. The beams may provide roosting sites for void-dwelling bats. The roof is lined with bitumen felt which is in moderate condition with no tears, however gaps are present at the ridgeline. The floor of the loft is lined with mineral wool insulation and timber boards are in place. Daylight can be seen from within the loft through gaps in the bitumen felt, around the chimneys and at the top of the brick walls. The internal abiotic recordings at the time of the survey were 18.6°C and 86% relative humidity. The approximate loft dimensions were 12m long x 9m wide x 2m high. Approximately 100 droppings were located within the loft space, noticed along the joists and caught in cobwebs (see Appendix 5). B1 is a confirmed roost for a brown long eared maternity roost and common pipistrelle maternity roost (Arbtech Consulting Ltd, 2022).

B1 Suitability Assessment

Given the number of features identified on the property and the presence of excellent bat habitat around the site, as well as the bat droppings located within the loft, it is assessed that B1 provides **high** habitat value for roosting bats.

Building B2

B2 is a one-storey brick-built semi-detached outbuilding with a pitched and gabled roof clad in corrugated asbestos roofing. The roof sheeting appears in good condition with no raised sections visible for roosting bats to utilise. The window and door frames are of timber construction and are tight-fitting to the brickwork. There are no suitable gaps for roosting bats to utilise. The interior of B2 is open with a vaulted ceiling and there is no separate loft space. The roof structure is comprised of metal beams. The roof is single-skinned and unlined. The building is not insulated and has large doors, reducing the suitability for bats as temperature and humidity would fluctuate rapidly.



Figure 2: B2 – North elevation.

B2 Suitability Assessment

Given the absence of features identified on the property, it is assessed that B2 provides **negligible** habitat value for roosting bats.

Building B3

B3 is a one-storey metal framed outbuilding with a pitched and gabled roof comprised of corrugated asbestos sheeting. The sheeting is in moderate condition. The eastern elevation is entirely open, with no doors or windows, allowing birds and bats to enter freely. However, this also reduces the stability of the interior conditions and reduces the likelihood of bats roosting, as temperature and humidity will fluctuate rapidly. There is also abundant daylight within B3. The roof is not lined, and the back of the sheeting is exposed. The building has a vaulted ceiling and no separate loft space. There is significant vegetative growth on the roof of the building which could be used by nesting birds.



Figure 3: B3 – North elevation.

B3 Suitability Assessment

Given the absence of features identified on the property, it is assessed that B3 provides **negligible** habitat value for roosting bats.

Building B4

B4 is a one-storey brick-built semi-detached outbuilding with a pitched and gabled roof clad in plastic composite roof tiles and asbestos corrugated roof sheeting. The roofing appears in good condition, with no raised sections under which bats could roost. The windows and doors are timber framed and are in good condition with no gaps around them in which bats could roost. The gable ends are clad in timber panelling which is in good condition, there are no warped boards or gaps suitable for bats. The interior of the building is open, and the ceiling is vaulted, with no separate loft space. The building is single skinned and is extremely light and prone to temperature fluctuations, reducing the suitability for bats.



Figure 4: B4 – Northwest elevation.

B4 Suitability Assessment

Given the absence of features identified on the property, it is assessed that B4 provides **negligible** habitat value for roosting bats.

<i>Foreseen Impacts</i>	Roosting habitat The proposed development will result in the renovation of B1. This could result in the damage or destruction of any bat roosts present and could cause disturbance, death or injury to bats. Bats are very unlikely to be roosting within B2, B3 or B4 and as such, there are not anticipated to be any impacts on bats in this location as a result of the proposed development. Foraging and commuting habitat The proposed development will not result in the removal of any habitats which could be used by foraging or commuting bats. However, the proposed development will include the use of lighting which could spill on to bat roosting, foraging or commuting habitat and deter bats from using these areas. Artificial lighting 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>	Roosting habitat

	Three 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. Sub-optimal: early May and September. Would require greater justification of timing e.g., weather conditions, known local bat activity. One of the surveys could be a dawn re-entry survey, or all three can be at dusk if supported by night vision aids (NVA). Four surveyors are required to provide full coverage of the building's elevations to look for emerging/re-entering bats. An infrared camera should also be employed as part of the survey to see where any specific roost locations are located. Lighting mitigation may be required based on the outcome of the night bat survey(s). 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. An EPSL application to Natural England will be required. The EPSL application requires that all surveys have been undertaken within the most recent active bat season and planning permission must have been granted and all relevant wildlife-related conditions have been discharged prior to submission. Foraging and commuting habitat No further surveys are required. Artificial lighting 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 Suggested biodiversity enhancements Enhancements are dependent on the outcome of further surveys.
Birds	
<i>Summary of Survey Findings</i>	Buildings No evidence of nesting birds was identified on or within B1. B1 is deemed to provide negligible habitat value for nesting birds due to a lack of suitable nesting sites or access points. B2 and B3 have suitable opportunities for nesting birds, and feathers were found within the interior of B3. Trees and vegetation No bird nests were identified within the vegetation on-site, however they all offer nesting opportunities and nest-building resources for birds.

	Barn owls The site does not appear to provide any suitable nesting sites for barn owls. Overwintering birds Due to the small size of the site and the extent and type of the habitats recorded, the site not considered suitable to support a significant assemblage of protected and/or notable birds.
<i>Foreseen Impacts</i>	Buildings/trees The proposed development could result in the destruction or the disturbance and subsequent abandonment of active bird nests. Barn owls None foreseen. Overwintering birds None foreseen.
<i>Recommendations</i>	Buildings/trees Any building or vegetation removal should be undertaken outside the period 1st March to 31st August. If this timeframe cannot be avoided, a close inspection of the vegetation should be undertaken immediately, by a qualified ecologist, prior to the commencement of work. All active nests will need to be retained until the young have fledged. Precautions should be taken with machinery and noise levels when working close to any retained nests 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. Barn owls None required. Overwintering birds None required. Suggested biodiversity enhancements The installation of a minimum of two bird boxes on mature trees around the site boundaries or on retained buildings will provide additional nesting habitat for birds e.g. Schwegler No 17 Swift Nest Box (buildings) Schwegler 1SP Sparrow Terrace (buildings) Schwegler 1B Nest Boxes (trees)

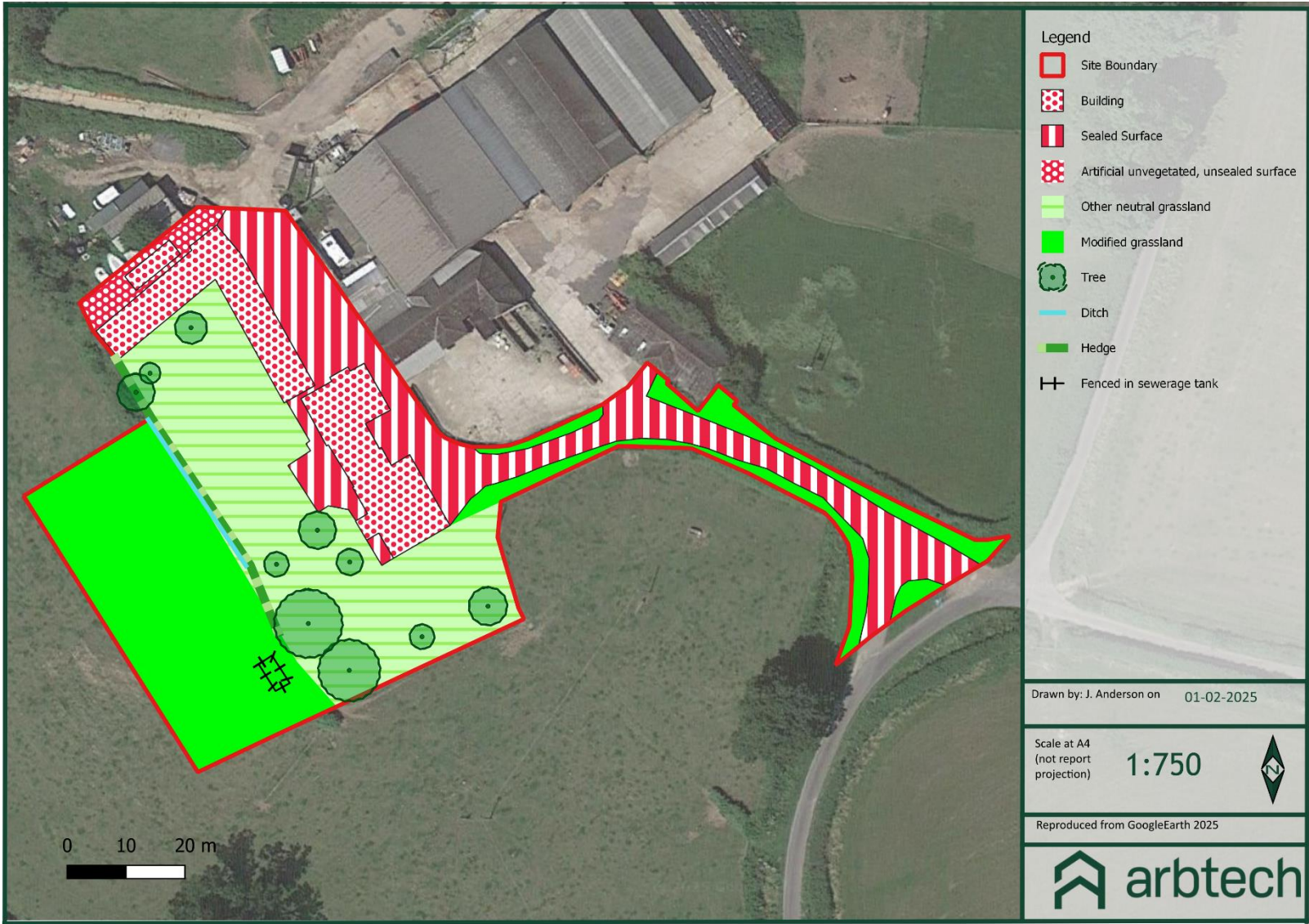
	Schwegler 2H Robin Boxes (trees) Woodstone Nest Box (buildings or trees) Or a similar alternative brand. Tree boxes should be positioned approximately 3m above ground level where they will be sheltered from prevailing wind, rain and strong sunlight. Small-hole boxes are best placed approximately 1-3m above ground on an area of the tree trunk where foliage will not obscure the entrance hole. Swift and sparrow boxes should be positioned at the eaves of a building and can be incorporated into the fabric of the building during construction.
Reptiles	
<i>Summary of Survey Findings</i>	EPSL data A review of the MAGIC database returned no granted EPSL records for protected reptiles within 2km of the site. Habitat suitability Habitats recorded on site are assessed to provide suitable foraging, commuting, and refuge opportunities for reptiles in the form of tall sward length grassland, hedgerows and trees. The site is enclosed by intensely managed agricultural land in addition to hardstanding roads. These landscape features are likely to significantly limit dispersal opportunities onto the site for reptiles from the wider landscape. However, although the majority of enclosing agricultural fields are subject to intense management including grazing and regular ploughing, the fields are likely to retain narrow unmanaged field margins interconnected by hedgerows that may provide foraging and commuting opportunities for a limited number of reptiles. Although potential connectivity to the site for reptiles is limited in extent, the presence of a small population of common reptiles cannot be fully discounted, albeit limited to peripheral vegetation.
<i>Foreseen Impacts</i>	Although a small area of suitable habitat is being removed as part of the development, there is a low risk that a low number of reptiles could be present in the vicinity of the works. These could be injured or killed without mitigation. The site does not form a connective pathway or stepping stone between areas of suitable reptile habitat in the wider landscape and the development is unlikely to lead to reptile habitat fragmentation.
<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 (5cm) to discourage reptiles. • 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.

	Suggested biodiversity enhancements The site could be enhanced for reptiles post-development with the inclusion of log piles (created from felled materials) and planting of areas of native shrubs, to provide sheltering opportunities.
Amphibians	
<i>Summary of Survey Findings</i>	EPSL and survey data A review of the MAGIC database returned no granted EPSL records for great crested newts within 2km of the site. Further, no positive class survey licence return or DLL historic survey data (2017 – 2019) were present within 2km of the site. Habitat suitability There are no ponds on the site, but a review of aerial imagery (MAGIC and OS Maps) indicates the presence of a singular pond within 500m; the pond (P1) is located ~0.49km south of the site and is situated on the far side of Chequer Lane. This landscape feature is likely to represent a significant barrier to dispersal due to heavy traffic flow and high kerbs along the road, eliminating connectivity to the site for great crested newts. Given the lack of suitably connected breeding ponds, the presence of great crested newts on site is considered unlikely. However, common amphibians may still be present within suitable areas of habitat on-site as they can travel great distances from ponds. Areas of shrubbery may provide foraging and sheltering opportunities for amphibians.
<i>Foreseen Impacts</i>	Given the lack of suitably connected breeding ponds within 500m of the site, the presence of GCN on-site is considered unlikely and therefore impacts to amphibians as a result of the proposed development are deemed to be acceptably low.
<i>Recommendations</i>	None required. Suggested biodiversity enhancements The site could be enhanced for amphibians post-development through creation of amphibian hibernacula using rubble and logs from site clearance. Information on how to construct a hibernaculum can be found here: https://www.wiltshirewildlife.org/hibernaculum
Badger	
<i>Summary of Survey Findings</i>	No badger setts were noted on site or within a 30m radius of the site. Further, no evidence of foraging badgers was noted within the development area. However, the site was considered suitable for badger sett excavation and foraging habitat.
<i>Foreseen Impacts</i>	No impacts are anticipated on badgers as a result of the proposed development. However, construction activities could result in the death or injury of badgers, if present for transient periods.
<i>Recommendations</i>	Owing to the nature of the proposed development and the low potential for impacts to bat roosts, further badger surveys are considered to be disproportionate. A precautionary working method will be implemented during construction, including the following measures: • A toolbox talk will be given to contractors regarding the possible presence of badgers at the site.

	• A pre-commencement inspection of the site will be undertaken for any new badger activity if works do not commence within three months. • Heras fencing will be erected around the working area to prevent encroachment into retained habitats where badger setts could be present. • 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 badgers could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. In the unlikely event that a badger sett is identified, works must cease and advice must be sought from a suitably qualified ecologist. Suggested biodiversity enhancements Planting fruit bearing trees and species-rich grassland to increase foraging opportunities for badgers.																
Riparian animals																	
Summary of Survey Findings	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. There are also no riparian habitats present on site or within an influencing distance.																
Foreseen Impacts	No impacts are anticipated on riparian animals as a result of the proposed development.																
Recommendations	None required.																
Hazel dormouse																	
Summary of Survey Findings	EPSL data A review of the MAGIC database returned three granted EPSL records for hazel dormice within 2km of the site.																
	<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>2018-34337-EPS-MIT</td><td>Hazel or common dormouse</td><td>1.55km</td><td>Destruction of a resting place</td></tr><tr><td>2018-34337-EPS-MIT-2</td><td>Hazel or common dormouse</td><td>1.55km</td><td>Destruction of a resting place</td></tr><tr><td>2018-34337-EPS-MIT-1</td><td>Hazel or common dormouse</td><td>1.55km</td><td>Destruction of a resting place</td></tr></table>	EPSL reference	Bat species affected	Distance from site	Impacts allowed by licence	2018-34337-EPS-MIT	Hazel or common dormouse	1.55km	Destruction of a resting place	2018-34337-EPS-MIT-2	Hazel or common dormouse	1.55km	Destruction of a resting place	2018-34337-EPS-MIT-1	Hazel or common dormouse	1.55km	Destruction of a resting place
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	Habitat suitability No evidence of dormice was found within the site. Furthermore, for isolated habitats in the UK, research indicates that dormice require 20ha of woodland habitat to support a viable population (Bright <i>et al.</i> 1994). The proposed development will not impact the hedgerows on site.																
Foreseen Impacts	No impacts are anticipated on hazel dormice as a result of the proposed development.																

<i>Recommendations</i>	Owing to the nature of the proposed development and the low potential for impacts to dormice, further dormouse surveys are considered to be disproportionate. A precautionary working method will be implemented during construction, including the following measures: • Site clearance will be undertaken outside of the dormouse hibernation season (November to March) insofar as is possible. • A toolbox talk will be given to contractors regarding the possible presence of dormice at the site. • Heras fencing will be erected around the working area to prevent encroachment into retained habitats where dormice could be present. • A pre-commencement inspection of the site will be undertaken for dormice. In the unlikely event that a dormouse or evidence of dormouse is identified, works must cease and advice must be sought from a suitably qualified ecologist.
Other e.g. hedgehog	
<i>Summary of Survey Findings</i>	The unmanaged grassland, hedgerows and trees provide foraging and commuting opportunities for hedgehogs, with woodland habitat nearby.
<i>Foreseen Impacts</i>	Grassland 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>	Similar to the badgers, a precautionary working method will be implemented during construction, including the following measures: • 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. Suggested biodiversity enhancements 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.

Appendix 1: Survey/Habitat map



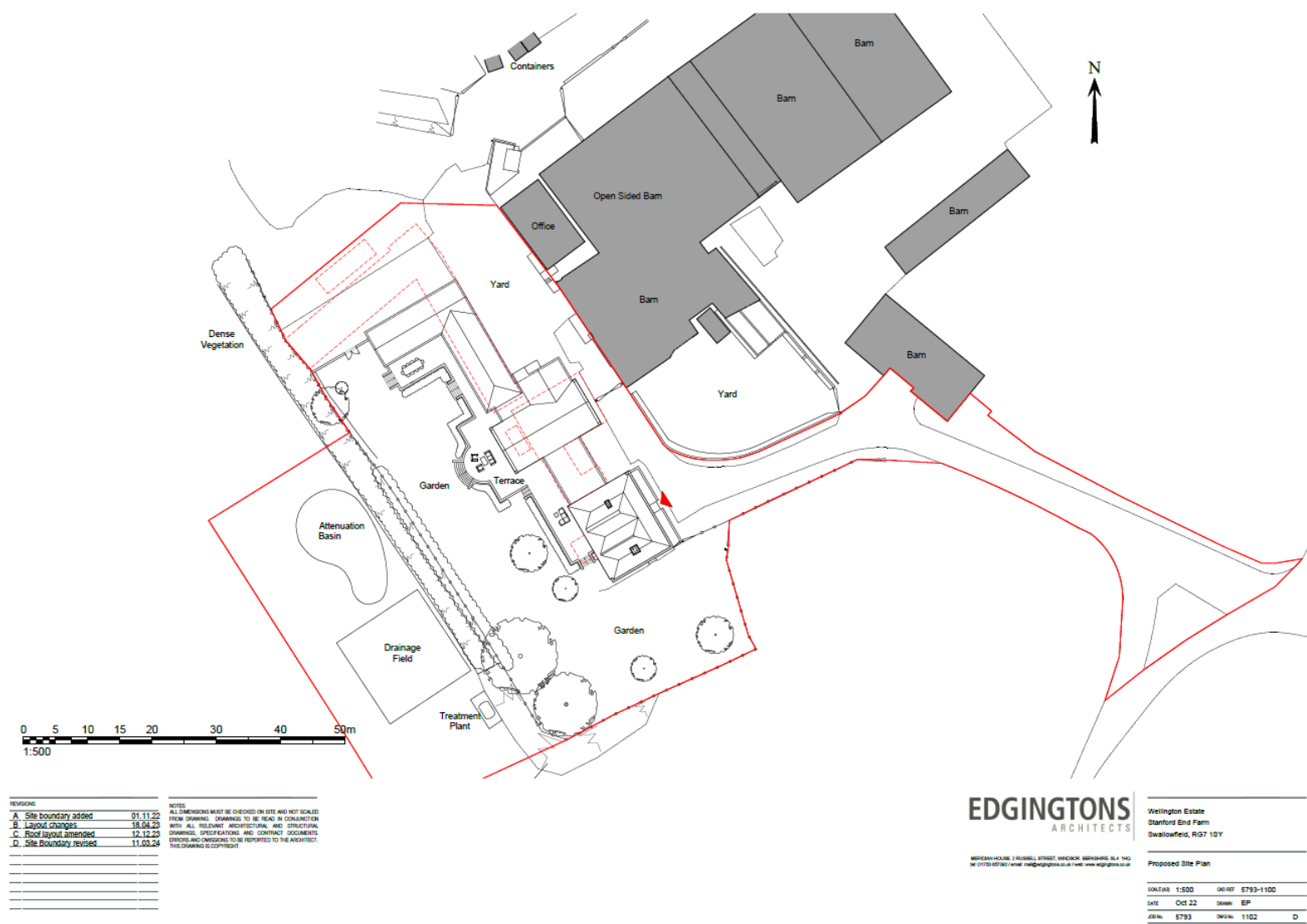
Appendix 2: PRA Plan – B1



Appendix 3: Location map



Appendix 4: Proposed plan



Appendix 5: Photos

Photograph	Description
	L1 Droppings found on a beam within the loft space within the interior of B1. Approximately 100 droppings in total were seen within the loft space.
	Interior of B1 There is a cellar within B1 which was assessed. No evidence of bats was found within the cellar. The abiotic recordings at the time of the survey were 18°C and 86% relative humidity.



B1 – Southwest elevation
The brickwork is in poor condition and there are gaps and cracks in the mortar which could be used by crevice dwelling bats.



B1 extension – Southwest elevation
There are numerous raised tiles along the entirety of B1, this photo is representative.



Interior of the one-storey extension of B1. Ceilings are vaulted and there is no separate loft space.



B2 – Interior.



B3 – East elevation and hardstanding.



B3 – Interior.



B4 – Interior.



Unmanaged other neutral grassland and scattered trees to the west of B1.



Hedgerow at the western boundary of the site.



Hardstandng providing vehicular access and parking.



Modified grassland on the west of the site.



There was limited visibility of the ditch owing to the presence of dense bramble scrub.



The ditch runs along adjacent to the hedgerow.



Fenced off septic tank.

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