

Preliminary Ecological Appraisal and Roost Assessment

Survey site:

St Stephens Church, Hamsland, Horsted Keynes RH17 7DX

Survey date:

17th June 2025 - *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.*

Project:

This report is prepared to inform a planning application with the Mid Sussex District Council. The proposal is described as:
The demolition of an existing building, followed by the erection of three dwellings.

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.](#)

Site Location and Context					
The survey site is centred on National Grid Reference TQ 38377 27893 and has an area of approximately 0.1ha. The site comprises a disused religious building, hard standing, scattered trees and an area of overgrown grassland which is succeeding into scrub. An agricultural field borders the site to the south, a sparse treeline to the west, Hamsland public road to the north and a residential dwelling to the east. The site lies on the southern edge of Horsted Keynes, a small rural village surrounded by agricultural land, mature hedgerows and parcels of woodland. There are several habitats of ecological value nearby, including multiple parcels of ancient deciduous woodland such as Sandpits Wood (200m south) and Coneyborough Wood (470m west). The site is located on slightly acid loamy and clayey soils with impeded drainage, with an underlying bedrock geology of sandstone and siltstone. A site location plan has been provided in Appendix 2.					
Survey Details					
The site survey was undertaken by Consultant Ecologist Kelly Clarke (Accredited Agent on Natural England Bat Licence Number: (2018-33540-CLS-CLS).					
Date of survey	Temperature (°C)	Humidity (%)	Cloud Cover (%)	Wind (Beaufort scale)	Rain
17/06/2025	18.1	53	40	1	None
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. No proposed development plans were available at the time of writing this report and therefore a detailed impact assessment could not be made. This report should be updated once the plans are available.					
Key Recommendations					
Should habitat loss be unavoidable, it is recommended that a translocation plan be adopted for the Common spotted orchids on site to ensure compliance with legislation and preserve the biodiversity of the site. Translocation to a suitable area within the site adjacent to the south is recommended. This should be undertaken following best practice guidance, with post-translocation monitoring to assess success.					

- Best practice measures to minimise the possibility of pollution affecting the nearby deciduous woodland must be implemented during construction. A Construction Environment Management Plan (CEMP) may be required for this.
- The planning application must be accompanied by a biodiversity net gain calculation to ensure the proposed development delivers a 10% net gain.
- Three bat emergence/re-entry surveys are required to assess the extent of bat activity, roost types, and whether maternity or hibernation roosts are present.
- Reptile surveys will be required to determine the presence or likely absence of reptiles on the site.
- Precautionary working methods for birds, badgers and hedgehogs.

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 habitat map in appendix 1, location plan in appendix 2, proposal plan in appendix 3 and photos in appendix 5). Botanical species are described about the DAFOR scale (D = Dominant; A = Abundant, F = Frequent, O = Occasional, R = Rare).	
<i>Summary of Survey Findings</i> u1b – Developed land/sealed surface [81 Ruderal or ephemeral, 521 Unmanaged] u1b5 – Buildings	The site does not contain any habitats listed as a habitat of principal importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006). On-site habitat descriptions u1b – Developed land/sealed surface [81 Ruderal or ephemeral, 521 Unmanaged] To the north of the site, there is an area of tarmacked surface which previously provided parking for the church. The site has been unmanaged and as such, ruderal species have started to colonise the edge of the hard standing. Species comprised White stonecrop <i>Sedum album</i>, Common nettle <i>Urtica dioica</i>, Smooth hawkbit <i>Leontodon saxatilis</i>, Himalayan honeysuckle <i>Leycesteria Formosa</i>, Buddleia <i>Buddleja davidii</i> and Herb Robert <i>Geranium robertianum</i>. Despite some vegetation being present within this habitat, it is considered to offer low ecological value.

u1e – Built linear features g3c – Other neutral grassland [10 scattered scrub, 124 Anthills, 521 Unmanaged] h2b – Non-native and ornamental hedgerow	u1b5 – Buildings There is one building on site, which is a disused church building (B1). Further information on the B1, as well as suitability for bats, is provided in Appendix 6: Preliminary Roost Assessment Results. u1e – Built linear features Along the northern site boundary, there is a low, brick-built wall. A gap is present to allow vehicle access into the site; however, the site has also been enclosed with Heras fencing to prevent access. g3c – Other neutral grassland [10 scattered scrub, 124 Anthills, 521 Unmanaged] The majority of the site comprises unmanaged, other neutral grassland. Due to the absence of active management, the grassland is undergoing natural succession, with scattered scrub present throughout. This has also resulted in a varied sward height, ranging from approximately 10 cm to 1.5 m. Several large ant hills were observed in the west of the grassland. Approximately 7 species per square metre were recorded, including dominant Yorkshire fog <i>Holcus lanatus</i>, Bramble <i>Rumex</i> <i>agg.</i>, Common nettle <i>Urtica dioica</i> and Cleavers <i>Galium aparine</i>. Abundant Creeping buttercup <i>Ranunculus repens</i>, False oat grass <i>Arrhenatherum elatius</i>, Tall fescue <i>Lolium arundinacea</i> and Sweet vernal grass <i>Anthoxanthum odoratum</i>. Frequent Greater birds-foot trefoil <i>Lotus pedunculatus</i>, Lesser stitchwort <i>Stellaria graminea</i>, Foxtail grass <i>Alopecurus spp</i> and Rough meadow grass <i>Poa trivialis</i>. Occasional Germander speedwell <i>Veronica chamaedrys</i>, Nipplewort <i>Lapsana communis</i>, Smooth hawksbeard <i>Crepis capillaris</i>, Ragwort <i>Jacobaea vulgaris</i>, Dock <i>Rumex spp</i> and Common ivy <i>Hedera helix</i>. Rare <u>Common spotted orchid</u> <i>Dactylorhiza fuchsia</i> and Musk mallow <i>Malva Moschata</i>. Several Oak <i>Quercus robur</i>, Dog rose <i>Rosa canina</i> and Hornbeam <i>Carpinus betulus</i> sapling where also present scattered throughout the grassland. It is noted that this grassland does not meet the criteria for lowland meadows. Medium, High and Very High Distinctiveness Grassland Condition Assessment: Moderate A. The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type: PASS B. Sward height is varied (at least 20% of the sward is less than 7cm and at least 20% is more than 7cm), creating microclimates with provide opportunities for vertebrates and invertebrates to live and breed: FAIL C. Cover of bare ground is between 1% and 5%, including localised areas: PASS D. Cover of bracken is less than 20% and cover of scrub is less than 5%: FAIL E. Combined cover of species indicative of suboptimal condition and physical damage accounts for less than 5% of total area: PASS F. There are 10 or more vascular plant species per m2: FAIL 32 – Scattered trees There are a total of three trees located on the site as outlined below (numbering taken from BS5837 (Arbtech Consulting Ltd, 2025 for continuity).
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Table 1. Trees on site

Tree Number	Species	Diameter at breast height (mm)	Condition
T2	Elm	88	Moderate
T3	Oak	75	Moderate
T4	Ash	781	Good

Condition Assessment

- A. The tree is a native species (or at least 70% of the block are native)
- B. The tree canopy is continuous, with gaps in canopy cover making up <10% of total area and no individual gaps being >5m wide (individual trees automatically pass this criterion)
- C. The tree is mature (or more than 50% within the block are mature)
- D. There is little to no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or determinantal agricultural activity). And there is no current pruning regime, so the trees retain >75% of expected canopy for their age and height
- E. Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark
- F. More than 20% of the tree canopy area is oversailing vegetation beneath.

Table 2. Condition Assessment for Individual trees

Tree Number	Criterion A	Criterion B	Criterion C	Criterion D	Criterion E	Criterion F	Condition
T2	✓	✓		✓		✓	Moderate
T3	✓	✓		✓		✓	Moderate
T4	✓	✓	✓	✓		✓	Good

h2b – Non-native and ornamental hedgerow

Along the eastern site boundary there is a non-native hedgerow comprising Box honeysuckle *Lonicera nitida*, interspersed with Common bracken *Pteridium aquilinum*. The hedge was approximately 2m in height and width and has been left unmanaged.

Local notable habitats

There are no priority habitats within or immediately adjacent to the site. The nearest priority habitat is deciduous woodland, which is located ~225m to the southeast. Several other priority habitats are present within 2km of the site, including ancient woodland, traditional orchard, good quality semi-improved natural grassland, lowland meadows and priority ponds and lakes.

<i>Foreseen Impacts</i>	On-site habitats At the time of writing, no detailed development proposals are available. However, it is anticipated that the entire area of other neutral grassland present on site (0.038ha) will be lost as a result of the proposed works. This could result in a net loss of biodiversity at the site. A total of 6 Common spotted orchids were recorded within the grassland on site. All wild orchids are protected from intentional uprooting under the Wildlife and Countryside Act 1981 (as amended). 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 deciduous woodland (~225m southeast), indirect effects (e.g. pollution, dust, litter, surface run off, etc.) could occur during construction.
<i>Recommendations</i>	On-site habitats To compensate for the proposed habitat losses at the site, the following habitat creation measures should be incorporated: • Creation of species rich grassland within any communal areas of the site. • Planting of native tree species such as Oak, Elder, Crab apple, Hawthorn, Rowan, Hazel, and Beech. Should habitat loss be unavoidable, it is recommended that a translocation plan be adopted for the Common spotted orchids on site to ensure compliance with legislation and preserve the biodiversity of the site. Translocation to a suitable area within the site adjacent to the south is recommended. This should be undertaken following best practice guidance, with post-translocation monitoring to assess success. Notable habitats Best practice measures to minimise the possibility of pollution affecting the nearby deciduous woodland must be implemented during construction. A Construction Environment Management Plan (CEMP) may be required for this. Biodiversity net gain The Environment Act (2021) requires all developments (excluding exemptions) to deliver a 10% net gain in biodiversity. This is mandatory for larger developments and came into force for smaller developments on 2nd April 2024. Therefore, the planning application must be accompanied by a biodiversity net gain calculation to ensure the proposed development delivers a 10% net gain.
Locality and Designated Sites	
<i>Summary of Survey Findings</i>	On-site designations The site is located within High Weald a designated area of outstanding natural beauty.

	Statutory designated sites (within 2km) The following Statutory Designated sites are present within 2km of the site: Table 3. Statutory Designated sites within 2km of site. <table><tr><th>Statutory Designated Sites</th><th>Location</th><th>Reason for Designation</th></tr><tr><td>High Weald (Area of Outstanding Natural Beauty)</td><td>On site Covers parts of Kent, Sussex and Surrey at the heart of southeast England.</td><td>22.8% of High Weald is ancient woodland, a crucial habitat in supporting a variety of rare wildlife including dormouse, pearl bordered fritillary and black-headed cardinal beetle. Nightjars have been known to breed in open, actively worked areas. The Weald supports 1,400ha of unimproved grassland which is nearly 20% of the entire resource of lowland meadow in England. Other habitats include salt marshes, reedbeds, wet grassland, saline lagoons and other water sources.</td></tr><tr><td>Freshfield Lane (Site of Special Scientific Interest)</td><td>~ 1,140m southwest ~ 1,225m south TQ 382266/TQ 387265</td><td>Freshfield Lane is a working quarry which provides exposures of the Upper Wadhurst Clay Formation and Lower Tunbridge Wells Sand, Grinstead Clay and Basal Upper Tunbridge Wells Sand Formations of Lower Cretaceous, Wealden age. It is internationally important and provides important paleoenvironmental, provenance and palaeogeographical studies.</td></tr></table> The site lies within the impact risk zone for Ashdown Forest Site of Special Scientific Interest. Non-statutory designated sites The presence of non-statutory designated sites within 2km of the site cannot be established without data from the Sussex Biodiversity Records Centre.	Statutory Designated Sites	Location	Reason for Designation	High Weald (Area of Outstanding Natural Beauty)	On site Covers parts of Kent, Sussex and Surrey at the heart of southeast England.	22.8% of High Weald is ancient woodland, a crucial habitat in supporting a variety of rare wildlife including dormouse, pearl bordered fritillary and black-headed cardinal beetle. Nightjars have been known to breed in open, actively worked areas. The Weald supports 1,400ha of unimproved grassland which is nearly 20% of the entire resource of lowland meadow in England. Other habitats include salt marshes, reedbeds, wet grassland, saline lagoons and other water sources.	Freshfield Lane (Site of Special Scientific Interest)	~ 1,140m southwest ~ 1,225m south TQ 382266/TQ 387265	Freshfield Lane is a working quarry which provides exposures of the Upper Wadhurst Clay Formation and Lower Tunbridge Wells Sand, Grinstead Clay and Basal Upper Tunbridge Wells Sand Formations of Lower Cretaceous, Wealden age. It is internationally important and provides important paleoenvironmental, provenance and palaeogeographical studies.
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Foreseen Impacts	On-site designations No impacts are foreseen. Statutory and non-statutory designated sites No impacts to designated sites are anticipated due to the small scale and distance of the proposed development from such sites (where known).									

	The site falls within the Ashdown Forest SSSI Impact Risk Zone (IRZ); however, the development does not meet the criteria for impacts that would likely lead to a significant effect on this SSSI. Therefore, no consultation with Natural England and no mitigation is required for this SSSI.
<i>Recommendations</i>	On-site designations None required. Statutory and non-statutory designated sites None required.
Invasive / Non-native species	
<i>Summary of Survey Findings</i>	No problematic invasive and non-native species recorded on site.
<i>Foreseen Impacts</i>	No impacts are foreseen.
<i>Recommendations</i>	No further surveys but remain vigilant.
Invertebrates	
<i>Summary of Survey Findings</i>	The unmanaged other neutral grassland and scattered scrub on site is likely to offer foraging and sheltering opportunities for common invertebrate species, owing to its varied sward structure. No other notable habitats were identified within the site that are likely to support specialised or protected invertebrate assemblages.
<i>Foreseen Impacts</i>	It is anticipated that the proposals will include the loss of all areas of other neutral grassland on site. 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 habitats locally.
<i>Recommendations</i>	No further surveys. Suggested biodiversity enhancements 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. The site could be further enhanced via the provision of native wildflowers or wildflower turf which would provide foraging opportunities for invertebrates.																								
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 less than 2km away from the survey site will find alternative habitats either within the mitigation measures implemented as part of the licence or will relocate to other known roost sites in close proximity to the licensed site. There are five EPSLs within a 2km radius of the site as detailed below: Table 4. Bat ESPLs 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>EPSM2013-6809</td><td>Common pipistrelle bat</td><td>~100m east</td><td>Destruction of a resting place.</td></tr><tr><td>2019-43243-EPS-MIT</td><td>Brown long-eared, Common pipistrelle and Soprano pipistrelle bat.</td><td>~840m northeast</td><td>Destruction of a breeding and resting site.</td></tr><tr><td>2019-43243-EPS-MIT-1</td><td>Brown long-eared, Common pipistrelle and Soprano pipistrelle bat.</td><td>~840m northeast</td><td>Destruction of a breeding and resting site.</td></tr><tr><td>EPSM2009-571</td><td>Brandts, Natterer's and Whiskered bat.</td><td>~1,180m south</td><td>Destruction of a resting site.</td></tr><tr><td>EPSM2013-5630</td><td>Common pipistrelle, Soprano pipistrelle and Brown long-eared bat.</td><td>~1,710m southeast</td><td>Destruction of a resting site.</td></tr></table> Foraging and commuting habitat The other neutral grassland, scattered scrub and trees present on site are likely to create varied microclimatic conditions that support a range of common invertebrate species. These, in turn, may provide foraging opportunities for local bat populations. While the site itself is assessed as having relatively low foraging and commuting value for bats, it is noted that a mature line of trees along the western boundary is well connected to a network of treelines and pockets of woodland within the surrounding landscape. Linear features such as these are known to facilitate bat movement by aiding navigation between roosting and foraging habitats. Most significantly, these treelines provide connectivity to Sandpits Wood, located approximately 370m to the south. Sandpits Wood is itself linked to additional woodland patches and includes several small ponds, which are likely to offer enhanced ecological value for bats, including Annex II species. Furthermore, directly adjacent to the south of the site is an area of unmanaged grassland of a similar composition to that on site, which is likely to provide more extensive foraging resources than the site itself.	EPSL reference	Bat species affected	Distance from site	Impacts allowed by licence	EPSM2013-6809	Common pipistrelle bat	~100m east	Destruction of a resting place.	2019-43243-EPS-MIT	Brown long-eared, Common pipistrelle and Soprano pipistrelle bat.	~840m northeast	Destruction of a breeding and resting site.	2019-43243-EPS-MIT-1	Brown long-eared, Common pipistrelle and Soprano pipistrelle bat.	~840m northeast	Destruction of a breeding and resting site.	EPSM2009-571	Brandts, Natterer's and Whiskered bat.	~1,180m south	Destruction of a resting site.	EPSM2013-5630	Common pipistrelle, Soprano pipistrelle and Brown long-eared bat.	~1,710m southeast	Destruction of a resting site.
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	Roosting habitat Buildings and trees to be impacted by the proposed development are assessed for their suitability to support roosting bats below. <i>Building B1</i> Building B1 is a disused church structure constructed of brick-built walls. The roof features clay barrel tiles and two gable ends. Internally, the structure has a vaulted ceiling. There are three small flat-roofed sections of the building on the north, east and west elevations which are constructed with led roofing felt. Timber has been used for the soffits and fascia boards, and the windows are also timber-framed. Most of the windows have been boarded up, reflecting the building's current unused condition. Several potential roosting features were observed, including lifted tiles, lifted roofing felt, and direct access into the internal voids. Additionally, bat droppings were found within the internal space. As such the building is considered to be a confirmed roost and has moderate value for roosting bats. <i>Trees</i> No potential bat roosting features were identified on T2, T3 or T4. Full results of the ground-level tree assessment are contained within Appendix 6.
<i>Foreseen Impacts</i>	Roosting habitat [Buildings] 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. Foraging and commuting habitat It is anticipated that the proposals will include the loss of all areas of other neutral grassland on site. However, given the small area (0.038ha) and the presence of more extensive areas of foraging and commuting habitat in the locality, this is likely to be inconsequential for bats. 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 [Buildings] Three bat emergence/re-entry surveys are required to assess the extent of bat activity, roost types, and whether maternity or hibernation roosts are present. Three surveyors and infrared cameras are required to provide full coverage of the building's elevations to look for emerging/re-entering bats.

	The 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. Early May and September are considered suboptimal and would require greater justification of timing e.g., weather conditions, and known local bat activity. An EPSL license will be required to demolish the building. The EPSL application requires that surveys have been undertaken within the most recent active bat season, planning permission must have been granted, and all relevant wildlife-related conditions have been discharged prior to submission 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. 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 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 recorded in B1 during the survey; however, there is value for nesting bird species such as House Sparrows and Swifts within the soffits. Trees and vegetation No bird nests were identified within the grassland on-site; however, it does offer nesting opportunities and nest-building resources for birds. No habitat for schedule 1 birds was observed. 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 will be integrated into the fabric of the new dwellings to provide additional nesting habitat for birds. Suitable boxes include: • Schwegler No 17 Swift Nest Box (buildings) • Schwegler 1SP Sparrow Terrace (buildings) Swift and sparrow boxes should be positioned in groups of three, 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 and local records A review of the MAGIC database returned no granted EPSL records for protected reptiles within 2km of the site. Habitat suitability The unmanaged neutral grassland and scattered scrub within the site are considered highly suitable for foraging, commuting, and basking reptiles due to their heterogeneous structure. During the site visit, reptile exclusion fencing was observed surrounding the adjacent field to the south. The applicant has confirmed that this neighbouring site has received planning permission for the construction of 30 new dwellings and is currently undergoing a reptile translocation programme. Previous surveys undertaken on the adjacent site recorded a low population of reptiles (Ecology Solutions, 2020). Although the presence of reptile fencing is likely to significantly limit the movement of reptiles between the two areas, it is possible that remnants of the original population remain present within the site. Wider landscape Sandpits Wood, located to the south of the site, is well connected to treelines in the wider environment, which border fields of unmanaged grassland. These habitats are likely to provide optimal foraging, commuting, and refuge opportunities for reptiles and are well connected to further suitable habitat in the wider landscape. The presence of reptiles utilising these adjacent habitats cannot be discounted.
<i>Foreseen Impacts</i>	It is anticipated that the proposals will include the loss of all areas of other neutral grassland on site (0.038ha). The loss of such habitats could result in a reduction in reptile habitat and could result in the fragmentation of the local landscape. Furthermore, site clearance could result in the death or injury of reptiles, if present. The site does not serve as a connective corridor or stepping stone between areas of suitable reptile habitat within the wider landscape. As such, precautionary working methods may not be appropriate, as there is no adjacent habitat into which reptiles could be safely displaced or dispersed.
<i>Recommendations</i>	Reptile surveys will be required to determine the presence or likely absence of reptiles on the site. This will comprise the deployment and monitoring of artificial refugia over seven visits and such surveys must be undertaken between April, May and September, in accordance with current survey guidelines (Gent & Gibson, 2003). A total of 20 artificial refugia will be required, including 16 mats and 4 tins. The surveys are likely to be required before planning permission can be granted. 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													
Summary of Survey Findings	EPSL and survey data A review of the MAGIC database returned three granted EPSL records for great crested newts within 2km of the site. Table 5. Great Crested Newt ESPLs within 2km of the site. <table><tr><th>EPSL reference</th><th>Distance from site</th><th>Impacts allowed by licence</th></tr><tr><td>2014-2503-EPS-MIT</td><td>~1,380m east</td><td>Destruction of a resting place.</td></tr><tr><td>2019-39693-EPS-MIT</td><td>~1,410m northeast</td><td>Damage to a breeding and resting site, impacting breeding.</td></tr><tr><td>2019-39693-EPS-MIT-1</td><td>~1,410m northeast</td><td>Damage to a breeding and resting site, impacting breeding.</td></tr></table> A review of the MAGIC database returned three granted EPSL records for great crested newts within 2km of the site. MAGIC database also returned evidence indicating the presence of great crested newts resulting from historic pond surveys undertaken in 2014, 2015 and 2019. These records are located over 1.4km southwest. Great crested newts 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 <i>et al.</i> 2001). As such, the great crested newt metapopulation known to be present over 1.4km southwest is not suitably connected to the site. Habitat suitability No ponds are present on or within 250m of the site. While the unmanaged other neutral grassland and scattered scrub may offer some limited opportunities for foraging, commuting, and shelter, it was noted during the survey that the field to the south of the site is separated by solid reptile and amphibian fencing. These barriers are specifically designed to prevent amphibian movement and are therefore likely to significantly restrict any potential migration onto the site. A total of five ponds are located within 500m of the site, the nearest of which lies approximately 325m to the southeast within a private garden. The remaining ponds are situated within Sandpits Wood. However, given the small area of suitable terrestrial habitat on site and the presence of dispersal barriers, it is considered unlikely that amphibians are present on site.	EPSL reference	Distance from site	Impacts allowed by licence	2014-2503-EPS-MIT	~1,380m east	Destruction of a resting place.	2019-39693-EPS-MIT	~1,410m northeast	Damage to a breeding and resting site, impacting breeding.	2019-39693-EPS-MIT-1	~1,410m northeast	Damage to a breeding and resting site, impacting breeding.
	EPSL reference	Distance from site	Impacts allowed by licence										
	2014-2503-EPS-MIT	~1,380m east	Destruction of a resting place.										
	2019-39693-EPS-MIT	~1,410m northeast	Damage to a breeding and resting site, impacting breeding.										
	2019-39693-EPS-MIT-1	~1,410m northeast	Damage to a breeding and resting site, impacting breeding.										
Foreseen Impacts	It is anticipated that the proposals will include the loss of all areas of other neutral grassland on the site (0.038ha). If great crested newts are present within the pond 325m to the southeast of the site, 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 (see Figure 1 below). Figure 1. Natural England Rapid Risk Assessment Results.												

	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)	No effect	0
	Land >250m from any breeding pond(s)	0.01 - 0.1 ha lost or damaged	0.001
	Individual great crested newts	No effect	0
			Maximum:
Rapid risk assessment result:		GREEN: OFFENCE HIGHLY UNLIKELY	
Recommendations	None required.		
Badger			
Summary of Survey Findings	EPSL and survey data A review of the MAGIC database returned no granted EPSL records for badgers within 2km of the site. Habitat suitability No badger setts or evidence of badger activity (E.G latrines, snuffle holes or hairs) were recorded on site. The site is considered unsuitable for sett creation due to the lack of suitable ground conditions. In addition, there is limited foraging potential on site owing to the absence of fruiting trees and the limited extent of scrub. However, the site is located within a semi-rural landscape and is surrounded by arable fields, a well-connected network of treelines and pockets of woodland which provide suitable foraging and commuting habitat for badgers. As such, the presence of badgers on site cannot be ruled out, although it is likely to be transient in nature.		
Foreseen Impacts	No works will be undertaken within 30m of a badger sett. It is anticipated that the proposals will include the loss of all areas of other neutral grassland on site. The loss of such habitats is likely to be inconsequential to local badger populations owing to the low value of the habitats on site, and the presence of more extensive habitat locally. However, construction activities could result in the death or injury of badgers, if present.		
Recommendations	Owing to the nature of the proposed development and the low potential for impacts on badgers, further badger surveys are considered to be disproportionate. A precautionary working method will be implemented during construction, including the following measures:		

	• 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	
<i>Summary of Survey Findings</i>	EPSL and survey data A review of the MAGIC database returned no granted EPSL records for otters or water voles within 2km of the site. Habitat suitability 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.
<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>	EPSL data and local records A review of the MAGIC database returned no granted EPSL records for hazel dormice within 2km of the site. Habitat suitability Dormice typically utilise a three-dimensional habitat structure to commute between feeding and breeding sites whilst avoiding predation. As such, the habitats on site are considered unsuitable for hazel dormice and therefore the likelihood of this species being present on site is considered acceptably low.

<i>Foreseen Impacts</i>	No impacts are anticipated on hazel dormice as a result of the proposed development.
<i>Recommendations</i>	None foreseen.
Other e.g. hedgehog	
<i>Summary of Survey Findings</i>	The unmanaged other neutral grassland and scrub on site offer foraging and commuting opportunities for hedgehogs and other small mammals. The structural diversity within these habitats is beneficial, providing dense cover for shelter and open spaces that support a variety of invertebrate species essential to the hedgehog diet. The availability of such shelter and food resources makes the site highly favourable for hedgehog activity. Additionally, the site's proximity and connectivity to Sandpits Wood further enhance its value for hedgehogs.
<i>Foreseen Impacts</i>	It is anticipated that the proposals will include the loss of all areas of other neutral grassland on site. 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 habitats 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