Kayleigh Davies BSc (Hons) MSc,
Consultant Ecologist
Email: kayleighdavies@arbtech.co.uk
Arbtech Consulting Ltd
arbtech.co.uk

Preliminary Ecological Appraisal

Survey site:

Queensbridge Farm, Overton On Dee, Wrexham LL13 0LE

Client:

Steven Heighway

Survey date:

14th January 2025

Project:

This report is prepared to inform a planning application with the Wrexham County Borough Council. The proposal is described as:

10 glamping pods, small car park and a path.

PEA survey methodology and legislation can be found in the Arbtech Supplement: PEA 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 SJ 37235 40154 and has an area of approximately 3ha. The development boundary is approximately 0.7ha.

The site comprises a hedgerow lined field, with scattered trees and a woodland to the south of the site. It is situated within the outskirts of Overton. There is woodland on site that extends into the local garden landscape. Aerial imagery shows the local landscape to have a woodland and agricultural field character, with several small copses and woodland swathes in close proximity to the site. The surrounding agricultural context of the site consists of fields of a mixture of arable and pasture use with hedgerows and trees. Watercourses can be found nearby, such as River Dee located ~1km to the north and streams to the south, with the closest being directly adjacent, offsite, to the southern boundary. There are also further ponds surrounding the site. Such features likely enhance the area for a variety of species, including bats, amphibians and reptiles.

Survey Details

The site survey was undertaken by Kayleigh Davies BSc, MSc, Accredited on Natural Resources Wales Bat Licence (details on request.) and holder of Natural Resources Wales Level 1 Great Crested Newt License (details on request).

Date of survey	Temperature (°C)	Humidity (%)	Cloud Cover (%)	Wind (km/h)	Rain
14/01/2025	12	71	90	5	None

Executive Summary

Bat activity surveys are required for the site to assess the site use by foraging and commuting bats.
A GLTA is required to assess the trees for bat roosting features if present before the felling of the trees.
A reptile survey is required to assess the presence or absence of reptiles on site.
eDNA of the ponds within 250m of the site is required to assess the presence of great crested newts in the area.
A phase 2 botany survey of the onsite grassland and woodland required to fully and accurately characterise & condition the woodland, assess if it is an important habitat (e.g. s.7 Annex 1, local BAP etc) and determine presence/likely absence of any important species.
Dormice survey of the woodland is required to assess the woodland for the presence of dormice.

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.

The PEA survey was completed outside of the optimal survey period (April to October) limiting the identification of ground flora species. This will therefore impact habitat identification of the site and important plant species may have been missed during the initial survey. Therefore, further survey effort is required during the optimal season to offset this limitation.

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 4). **Botanical species are described with reference to the DAFOR scale (D = Dominant; A = Abundant, F = Frequent, O = Occasional, R = Rare).**	
Summary of Survey Findings	The site contains mixed woodland, of which a section is designated as ancient woodland which is listed as a habitat of principal importance under Section 7 of the Environment (Wales) Act 2016 and is Irreplaceable Habitat. Furthermore, the site contains other neutral grassland which is of good quality and could be of value to local wildlife populations (as detailed in subsequent sections of this table). Notable habitats are present within 2km. **On-site habitat descriptions** **g3c** – Other neutral grassland The site consists of a pasture field, which is subject to regular management via mowing. There is a presence of bare ground and damage on site, likely due to the use of machinery on the site. Species composition consists of perennial rye (D), meadow buttercup (A), meadowgrass (F), clover (F), sorrel (F), bramble (O), nettle (O), butchers broom (O), broad leaved dock (R), wood avens (R). Grass sward length is uniform and has an average length of ~15cm. **w1h** – Other woodland – mixed There is a woodland to the south of the site. Tree species present include Lawson's cypress (D), Fir (A), Larch (F), Elder (O) and Ash (R). There is a mix of age class present with saplings and mature trees observed. There are some fallen trees within the woodland parcel with some deadwood observed. The ground flora consisted of ivy (D), holly (A), bramble (F), nettle (O) broad leaved dock (R). The banks of the wood are sloped and there are sections of bare ground throughout. No observed invasive species present. The woodland onsite is connected to further woodland that is designated as ancient woodland. The woodland within the site boundary itself, when consulting historic maps, was not present in the 1900s and is therefore considered a recent

	woodland (Shropshire VI-5 – 1901 (Appendix 4)). However, due to the season the survey was conducted, ancient woodland indicators may not have been present and further survey effort is recommended to fully assess the woodland on site. **h2a** – Native Hedgerow The hedgerow onsite has varying height sections and species present include hawthorn (D) and blackthorn (A) with ivy (F), nettle (O) and bramble (R). The hedgerow within the survey site boundary to the north is ~1.6m in height and ~0.7m in width. There are sections of vertical gaps throughout the onsite hedgerow which amount to <10% of the hedgerow surrounding the field. The observed section within the survey boundary has no observed gaps. Offsite habitats **r2b** – Other river and streams The stream just offsite to the south of the site is ~2m wide and ~15cm – 32cm deep. The stream is flowing with limited submerged vegetation. The banks are observed to be steep with sparse vegetation. The stream floor consists of stones and rock. **Local notable habitats** The following are local notable habitats that were returned from COFNOD (local environmental record centre) within a 2km radius of the site and the closest records. - ***Ancient woodland – onsite (see appendix 1.e), ~960m northwest, ~616m east, 1km east, 1.15km southeast, 1.2km south and ~165km west.*** - Traditional Orchard - ~20m north, ~85m north, ~325m northwest, ~552m southwest, ~750m south, ~760m south, ~770m south and ~1.2km east. - Semi-Improved Grassland - ~960m. - Coastal Floodplain and Grazing March - ~1km north. - Lowland Meadows - ~1km east and ~1.4km northwest. - Lowland Fens and Reedbeds - ~1.4km northwest.
Foreseen Impacts	**On-site habitats** The proposed development will result in the loss of grassland and sections of woodland. Sections of the woodland within the development line boundary are designated as ancient woodland, and therefore it is likely that the remaining woodland to be impacted is a habitat of principal importance and irreplaceable habitat. This could result in a net loss in biodiversity at the site. Furthermore the survey was conducted outside of the optimal season for botanical surveys. **Notable habitats**

	Onsite construction activities will result in removal of an unknown number of trees. Although the trees that would be removed would not be within the designated ancient woodland, the construction will occur <10m away from the ancient woodland designation. This will cause direct impacts to the woodland such as root damage, pollution and dust run off.
Recommendations	**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). On site construction may result in the damage or destruction of the designated ancient woodland that covers a section of the site without mitigation. **Notable habitats** It is recommended that the pods are positioned insofar as possible away from the designated ancient woodland. If this is not possible, further surveys are required on the onsite woodland. A Phase 2 botanical survey will be required to determine if the grassland and woodland on the site is a habitat of principal importance. This survey of the woodland must be undertaken between April-May, with April being the preferred month in accordance with current survey guidelines. The grassland is recommended to be surveyed between May to September, with June being the preferred month in accordance with current survey guidelines. The survey is likely to be required before planning permission can be granted. **Green Infrastructure Assessment** Planning Policy Wales (2024) requires all developments within Wales to conduct a Green Infrastructure Assessment to deliver Net Biodiversity Benefit and maintain biodiversity during development. Therefore, the planning application must be accompanied by a Green Infrastructure Statement to detail how the site is maintaining biodiversity and include recommendations to further enhance the site biodiversity.
Locality and Designated Sites	
Summary of Survey Findings	**On-site designations** The site is designated as Lightwood and Queensbridge Dingle Local Wildlife Site (LWS), located to the southern aspect of the site, encompassing 0.27ha of the survey site boundary of the woodland and is discussed below (also see appendix 1e). **Statutory designated sites (within 2km)** There are 2 statutory sites within 2km of the site, as detailed below: - Shell Brook Pastures Site of Special Scientific Interest (SSSI) - ~1km southwest - *The pastures support a range of plants characteristic of this type of grassland including Quaking Grass Briza media, Timothy Phleum pratense, Meadow Fescue Festuca pratensis, Cowslip Primula veris and the uncommon Adder's Tongue Fern Ophioglossum vulgatum, Pepper Saxifrage Silaum silaus, Hoary Ragwort Senecia erucifolius, Dyer's Greenweed Genista tinotoria and Green-winged*

	Orchid Orchis morio. Typical plants of the wet flushes associated with springs and in marshy ground in the valley bottom are Hairy Sedge Carex hirta, Sneezewort Achillea ptarmica, Ragged Robin Lychnis flos-cuculi and Fleabane Pulicaria dysenterica. One of the pastures includes the margin of an area of Alder carr (woodland) with a dense stand of Great Horsetail Equisetum telmateia. - River Dee and Bala Lake (SSSI) Special Area of Conservation (SAC) - ~1.4km northwest - *The lake has abundant pike, perch, brown trout, roach and eel. It also contains the gwyniad, a fish unique to the locality and listed as critically endangered by the IUCN due to the introduction of the invasive and non-native ruffe, and the very rare mollusc Myxas glutinosa (the glutinous snail). According to legend, whilst the Dee itself flows through the lake, the waters never mix. However this was not confirmed by the detailed limnological work undertaken from the 1990s, to understand and manage the occurrence of algal blooms on the lake.* **Non-statutory designated sites** Biological records was obtained from COFNOD (Local Environmental Record Centre) which revealed the presence of the following non-statuatory sites within 2km: - ***Lightwood and Queensbridge Dingle Local Wildlife Site (LWS) – onsite to the south.*** - Morris, Helt Wood and Neile's Wood - ~900m north. - Llan Y Cefn (LWS) - ~1km northwest. - Caerowlin Wood and Meadows (LWS) - ~1.7km northeast. - Nantclimbers Grassland and The Dukes - ~1.7km southeast.
Foreseen Impacts	**On-site designations** The proposed plans include the incorporation of glamping pods to the south of the site. Construction will include the removal of an unknown number of trees within this designation. Furthermore, although the ponds will be suspended off the ground, the construction of the pods will involve disturbance of the ground flora and will increase recreational pressure to this local wildlife site due to the use of these pods and further indirect effects such as pollution or tree damage could occur during construction. **Statutory and non-statutory designated sites** No direct impacts to any further offsite designated sites (not including the above on-site designation) will occur as a result of the proposed development. However, due to the proximity of the site to Morris, Helt Wood and Neile's Wood (LWS), indirect effects such as pollution or habitat damage could occur during construction. Similarly the proposed development could result in increased recreational pressure to further nearby areas.
Recommendations	**On-site designations** Habitats on site, especially the woodland habitats should be protected so far as possible and enhanced where possible. Suggested enhancements will be subject to the results of the further botany surveys onsite.

	Suggested enhancements are included within the Green Infrastructure Statement. **Statutory and non-statutory designated sites** Best practice measures to minimise the possibility of pollution affecting onsite Lightwood and Queensbridge Dingle LWS and other nearby LWS 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 grassland, hedgerow, stream and woodland, likely provide invertebrates with opportunities to forage and shelter. The site contains no further notable habitats which may provide niches for specialised or protected invertebrates. **Biological Records Data (2km)** - There is one record of small heath situated ~580m north. - There is one record of blood-vein situated ~700m south. - There is one white-letter hairstreak situated ~1km. - There is one record of pale eggar situated ~1.9km north.
Foreseen Impacts	Grassland will be removed during construction. Furthermore, an unknown number of trees will be felled and ground flora within the woodland will be disturbed to facilitate the proposed works. The loss of such habitats whilst of good habitat for invertebrates is likely to be inconsequential to local invertebrate populations owing to the presence of more extensive habitat locally.
Recommendations	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. Further incorporation of a site appropriate NVC community of wildflowers will further enhance the site for invertebrates.
Bats	
Summary of Survey Findings	**Biological Records Data (2km)** There are no records for bats within 2km of the site boundary. **Foraging and commuting habitat** Habitats recorded on site are assessed to provide foraging and commuting opportunities for bats in the form of grassland, arable land, hedgerow and woodland. 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 extend beyond the site adding to the continuity of vegetated linear features present in the wider landscape. Furthermore the woodland onsite provide foraging habitat for bats. Bats are well known to utilise linear features to aid navigation whilst travelling between foraging resources and roost sites. **Roosting habitat** Trees on site were not assessed for roosting habitat due to the number of trees within the woodland and the unknown number of trees to be felled to facilitate the work. Once this is known, a ground level tree assessment (GLTA) will be required to assess the trees to be felled for their suitability for roosting bats.
Foreseen Impacts	**Roosting habitat [Trees]** The felling of onsite trees before a ground level tree assessment is undertaken may result in the death or injury of roosting bats if present. **Foraging and commuting habitat** The proposed development will result in the loss of small areas of grassland and an unknown number of trees will be felled to facilitate the works. Due to the change of use of the land and the felling of the trees within the woodland, this may impact commuting and foraging bats within the area if not mitigated for. **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.
Recommendations	**Roosting habitat [Trees]** Trees to be felled for the proposed works will be subject to a ground level tree assessment to assess the trees for the suitability for roosting bats. **Foraging and commuting habitat** Bat activity surveys, comprising walked transects and static monitoring, will be required to determine the usage of the site by foraging and commuting bats as well as to identify the likely presence or absence or any bat roosts in the vicinity, particularly those of high conservation value including maternity roosts. Due to the value of the habitats present on the site a total of three visits, one per season between spring and autumn, will be required to gather sufficient information to enable a full assessment to be made. **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** The installation of two bat boxes at the site will provide additional roosting habitat for bats. The bat boxes will be included on retained trees on site. They will be suitable for pipistrelles (which have been identified locally through EPSL data). Suitable bat boxes include Beaumaris Bat Box or Schwegler 1B Bat Box or similar alternative brand. Bat boxes should be positioned 3-5m above ground level facing in a south or south-westerly direction with a clear flight path to and from the entrance, away from artificial light.
Birds	
Summary of Survey Findings	**Biological Records Data (2km)** - There is one record of reed bunting situated ~430m north. - There is one record of sparrowhawk situated ~430m northeast. - There are two records of black headed gull of which the closest is ~650m south. - There are four records of coal tit of which the closest is ~700m north. - There is one record of fieldfare situated ~700m south.

	- There are three records of goldcrest of which the closest is situated ~700m south. - There are two records of grey wagtail of which the closest is situated ~1.3km north. - There is one record of tawny owl situated ~1.3km north. - There is one record of red kite situated ~1.3km north. - There is one record of redwing situated ~1.3km northeast. - There is one record of Canada goose situated ~1.5km northwest. - There is one record of garden warbler situated ~1.6km south. - There is one record of cormorant situated ~1.7km north. - There is one record of kingfisher situated ~1.7km north. **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 grassland on site provide habitat for barn owls to forage. Furthermore, the woodland provides further value for foraging 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.
Foreseen Impacts	**Trees** The proposed development could result in the destruction or the disturbance and subsequent abandonment of active bird nests. **Barn owls** The removal of the small section of other neutral grassland is considered inconsequential to barn owl populations. However, the glamping pods within the woodland will impact on barn owl habitat, however due to the further barn owl habitat surrounding the site, the removal of the unknown number of trees to allow the glamping pods is not anticipated to be consequential for barn owls. **Overwintering birds** None foreseen.

Recommendations	**Trees** Any 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** The retainment of onsite grassland and trees as so far as possible, and a low lighting strategy for the site will limit impacts to barn owls on site. **Overwintering birds** None required. **Suggested biodiversity enhancements** The installation of a minimum of two bird boxes on mature trees around the site boundaries will provide additional nesting habitat for birds e.g. Schwegler 1B Nest Boxes (trees) Schwegler 2H Robin Boxes (trees) Woodstone Nest Box (buildings or trees) Barn Owl Nestbox (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.
Reptiles	
Summary of Survey Findings	**EPSL data and local records** A review of the MAGIC database returned no granted EPSL records for protected reptiles within 2km of the site. No records of reptiles were returned from COFNOD within 2km of the site. **Biological Records Data (2km)** There are no records for reptiles within 2km of the site boundary.

	Habitat suitability Habitats recorded on site are assessed to provide foraging, commuting, basking and refuge opportunities for reptiles. The hedgerow and scrub provide elevated value for reptiles as these habitats provide a suitable structure for refuge, whilst also providing foraging and commuting opportunities. The site has good connectivity to further suitable reptile habitat in the wider landscape via woodland. The presence of reptiles on site cannot be discounted. **Wider landscape** The adjacent sections of the stream and woodland are of elevated ecological value within the wider landscape and may represent important resources for local reptile populations. These adjacent habitats 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.
Foreseen Impacts	The loss woodland habitat could result in a reduction in reptile habitat and site clearance could result in the death or injury of reptiles, if present.
Recommendations	Reptile surveys will be required to determine 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). **Suggested biodiversity enhancements** The site could be enhanced for reptiles post-development with the inclusion of log piles (created from felled materials).
Amphibians	
Summary of Survey Findings	**EPSL and survey data and biological records data** There is one record of common toad within 2km returned from COFNOD. This is located 1.86km to the north. There are no records of great crested newt returned from COFNOD within 2km. 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 *et al.* 2001). **Biological Records Data (2km)** - There is one record of common toad situated ~1.9km north. **Aquatic habitat suitability (including ponds within 500m)**

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. There are ~8 ponds within 250m of the site boundary and a further ~19 ponds within 500m of the site for a total of ~27 ponds. These include P1 (within adjacent residential area) ~146m to the northeast of the survey site boundary, P2 ~120m south, P3 ~147m east, P4 ~210m north, P5 ~220m north, P6 ~230m southwest, P7 ~250m east and P8 ~255m southeast. These ponds are all suitably connected to site via hedge and tree lined fields.

Terrestrial habitat suitability

The site provides limited suitable terrestrial habitat for amphibians given the lack of optimal habitat (i.e. scrub, rank grassland). The areas of hard standing and amenity grass offer sub-optimal habitat for terrestrial amphibians. The hedgerows may offer refuge for these species, however given the urban nature of the surrounding landscape (i.e. dominated by roads and hard standing which are sub-optimal for amphibians) it is unlikely that amphibians will migrate on to site. Further, there is limited suitable terrestrial habitat across the wider landscape reducing the likelihood of amphibians being present on site and across the surrounding areas.

Foreseen Impacts

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 loss or significant disturbance of <0.6ha of grassland and woodland. If great crested newts are present within the closest pond of ~120m to the south of the site, when completing the rapid risk assessment published by Natural England (Natural England 2015), the proposed development produces an **Amber risk score**, which states: **Offence Likely** (see **Figure 1** below).

Table 1: rapid risk score from Natural England.

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)	0.5 - 1 ha lost or damaged	0.3
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0
	Maximum:	0.3

	Rapid risk assessment result:	**AMBER: OFFENCE LIKELY**
Recommendations	Environmental DNA (eDNA) surveys will be required of P1-8 located to the northwest of the site (where accessible) to determine the presence or absence of great crested newts. This will comprise collecting water samples and sending them off for laboratory analysis and such surveys must be undertaken between mid-April and June, in accordance with current survey guidelines (Biggs et al, 2014). **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		
Summary of Survey Findings		
Foreseen Impacts	No works will be undertaken within 30m of a badger sett. Small sections of other neutral grassland will be removed during construction and construction of the glamping pods will result in the loss of an unknown number of trees and some ground flora. 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 to badgers, 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 advise 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	The stream located within the onsite woodland, just outside of the survey site boundary, has suitability to support riparian mammals. The stream is further connected to other water courses in the wider area and with the surrounding woodland, there is foraging habitat presence for riparian mammals. The stream has limited submerged vegetation, and limited vegetated banks and has cover from the oversailing trees. No field signs of otter, such as droppings, tracks or holts were identified during the survey. No field signs of water voles such as droppings, holes or prints were observed during the surveys. **Biological Records Data (2km)** There are no records for riparian mammals within 2km of the site boundary.
Foreseen Impacts	**Otters** The proposed development will not result in the loss of any riparian habitats and no works will be undertaken within 8m of the watercourse (as per Environment Agency regulations). However, due to the presence of the watercourse within close

	proximity of the site, indirect effects such as pollution could occur during construction. Furthermore, construction activities could result in the death or injury of otters, if present. **Water voles** No works will be undertaken within 5m of the top of the banks of the watercourse. Therefore, no impacts are anticipated on water vole as a result of the proposed development.
Recommendations	**Otters** Owing to the nature of the proposed development and the low potential for impacts to otter, further otter 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 otters at the site. • A pre-commencement inspection of the site will be undertaken for otters. • Heras fencing will be erected around the working area to prevent encroachment within 8m of the watercourse. • 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 the watercourse and any retained habitats which otters could use. • Best practice pollution prevention measures will be implemented to minimise impacts to the watercourse and any retained habitats that otters 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 an otter holt or den is identified, works must cease and advise must be sought from a suitably qualified ecologist. **Water voles** Owing to the nature of the proposed development and the low potential for impacts to water voles, further water vole 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 water vole at the site. • Heras fencing will be erected around the working area to prevent encroachment within 5m of the watercourse. • 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 the watercourse and any retained habitats which water voles could use.

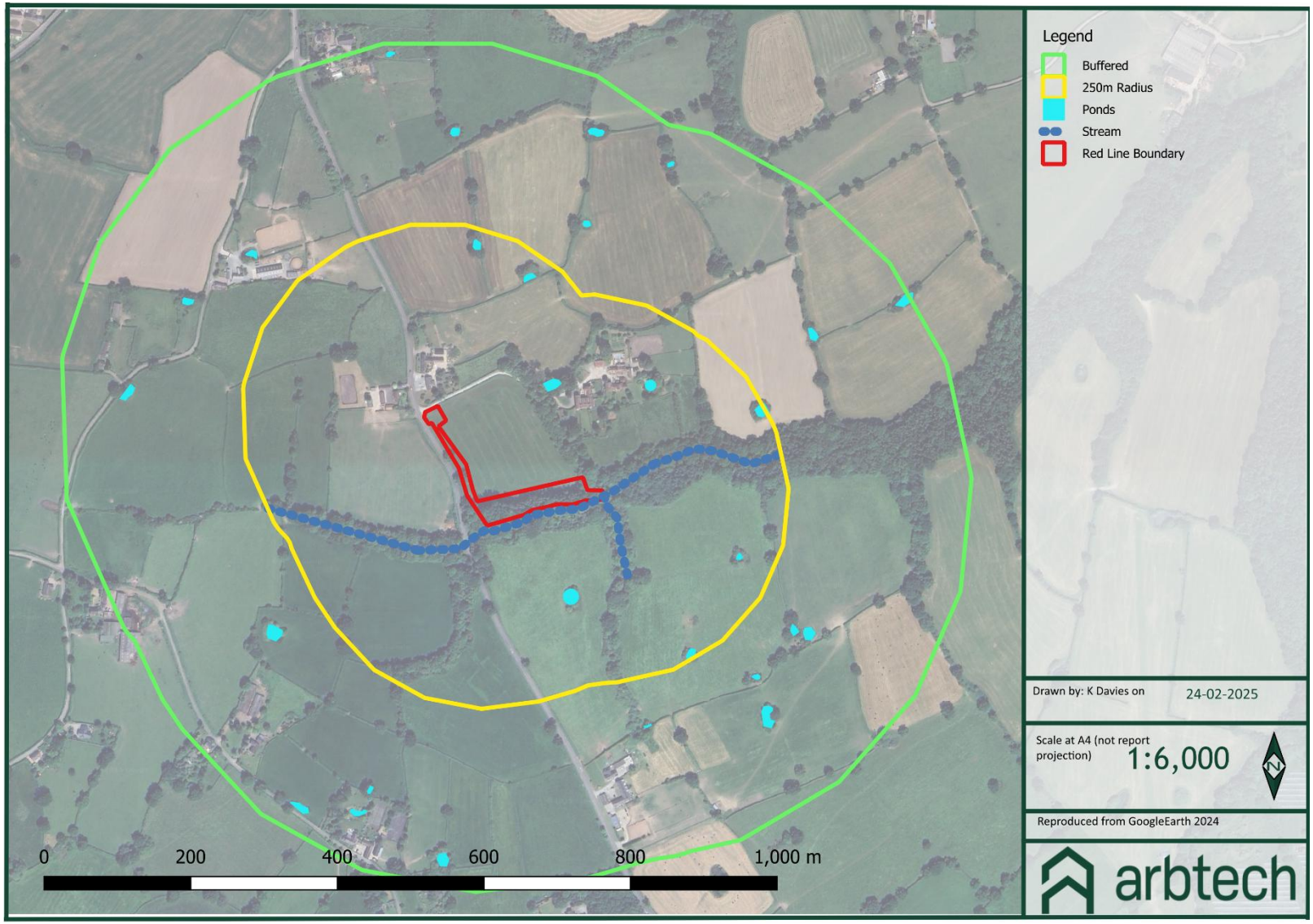
	• Best practice pollution prevention measures will be implemented to minimise impacts to the watercourse and any retained habitats that water vole could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. In the unlikely event that water voles or evidence of water voles is identified, works must cease and advise must be sought from a suitably qualified ecologist. **Suggested biodiversity enhancements** Planting species rich grassland close to the watercourse to increase foraging opportunities for water voles. Planting native trees and shrubs close to the watercourse to increase opportunities for shelter for otters.
Hazel dormouse	
Summary of Survey Findings	**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 as to commute between feeding and breeding sites whilst avoiding predation. Furthermore, for isolated habitats in the UK, research indicates that dormice require 20ha of woodland habitat to support a viable population (Bright *et al.* 1994). The woodland onsite extends to the east and consists of >20ha of woodland with hedgerow lined fields surrounding the woodland.
Foreseen Impacts	Although the removal of small sections of the other neutral grassland onsite will be considered inconsequential to dormice, the construction activity within the woodland will result in the disturbance of ground flora and the removal of an unknown number of trees. The loss of such habitats could result in the disturbance of dormouse nests and supporting habitat and could result in the fragmentation of the local landscape. Furthermore, site clearance could result in the death or injury of dormice, if present.
Recommendations	Hazel dormouse surveys will be required to determine presence or likely absence of dormice on the site. This will comprise the deployment and monitoring of nest tubes and boxes as well as nut searches artificial refugia over several months between April and November, in accordance with current survey guidelines (Bright et al, 2006). The surveys are likely to be required before planning permission can be granted.
Other e.g. hedgehog	

Summary of Survey Findings	The woodland and hedgerow onsite provides high value foraging and commuting opportunities for hedgehogs, with connections to further woodland habitat nearby. **Biological Records Data (2km)** - There are three records of hedgehog of which the closest is situated ~1.3km north.
Foreseen Impacts	Other neutral grassland will be removed during construction, along with disturbance to the ground floor of the woodland for the installation of the camping pods. The loss of the grassland 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.
Recommendations	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 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.

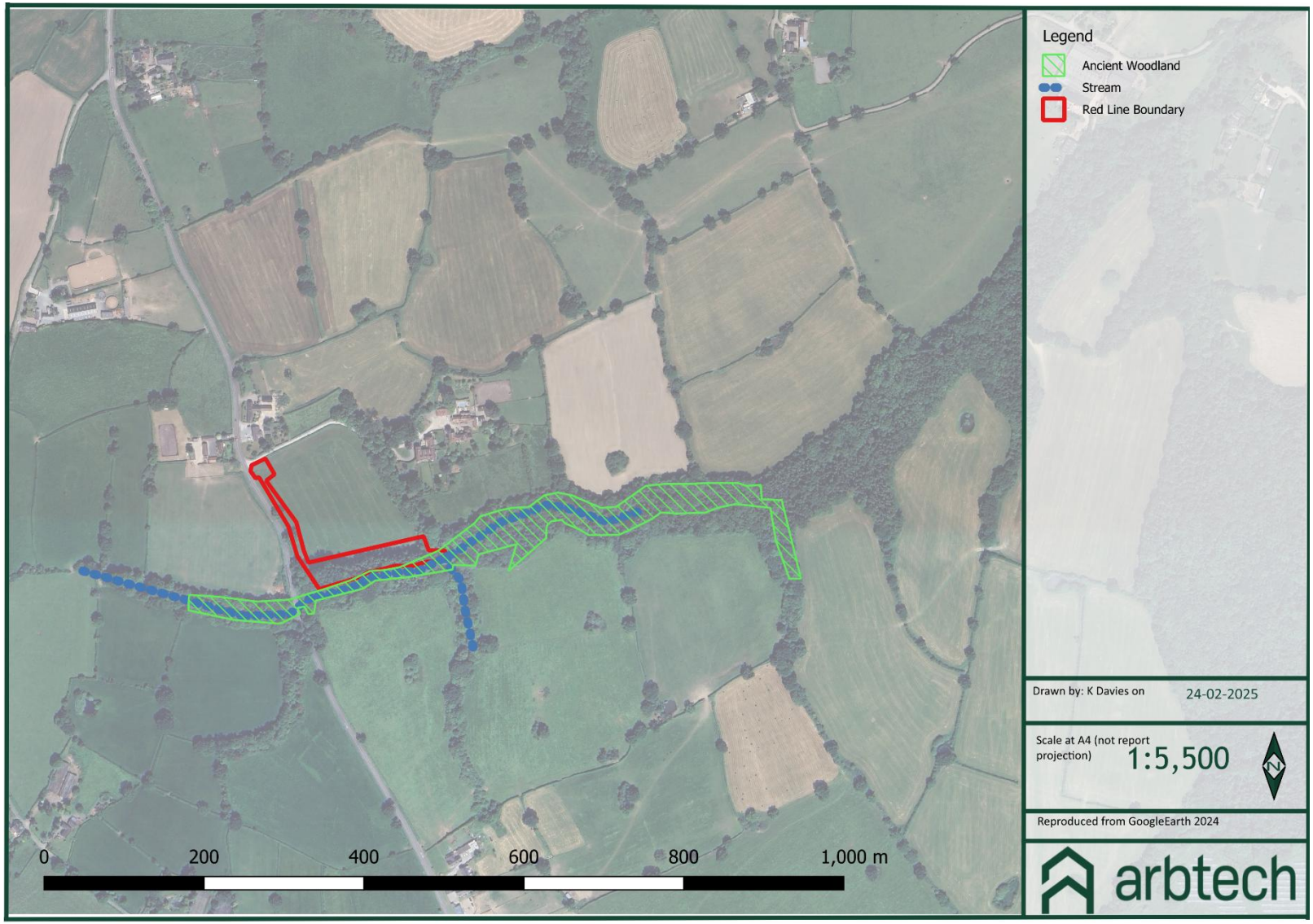
Appendix 1: PEA Map



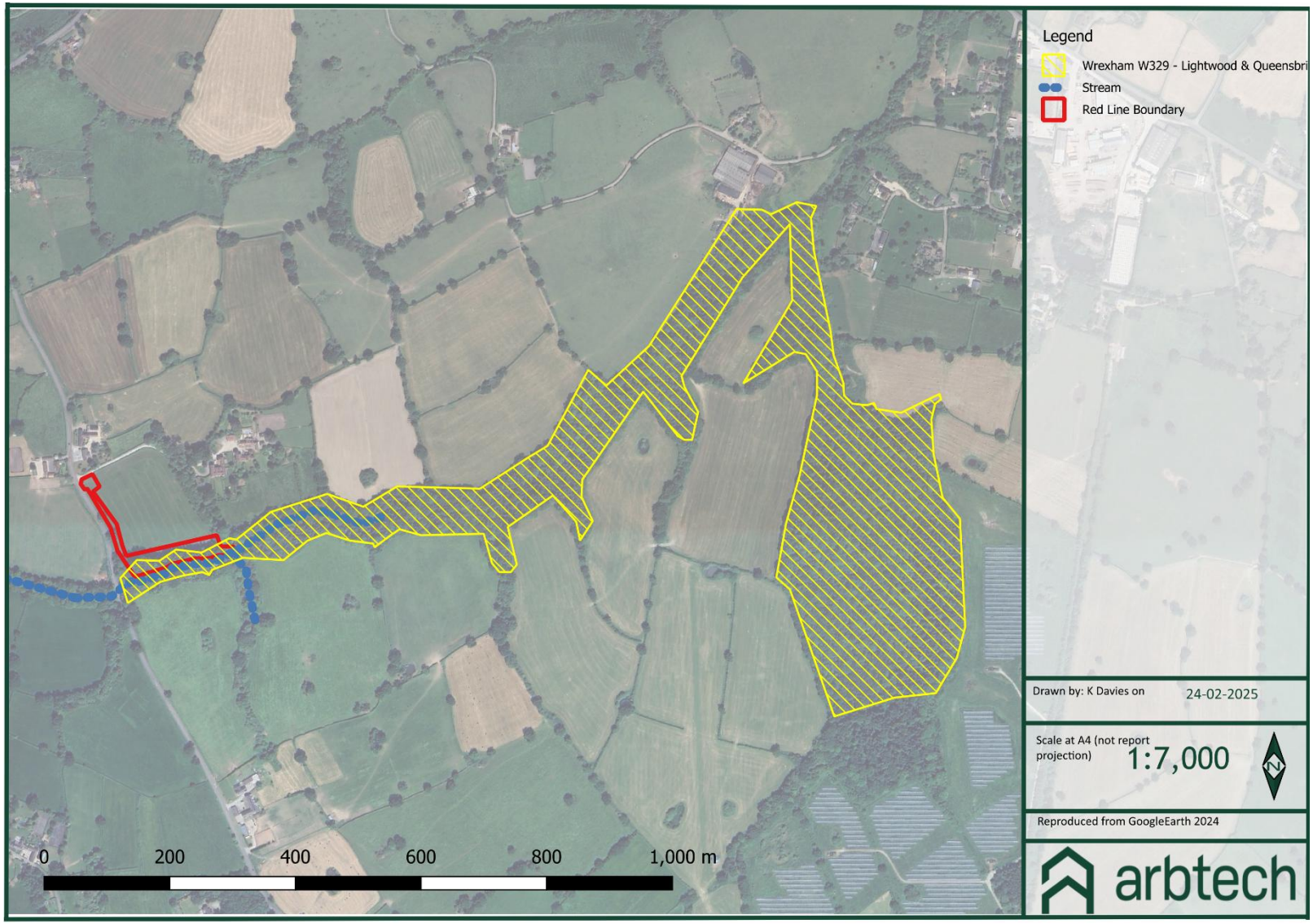
Appendix 1b: Pond Map



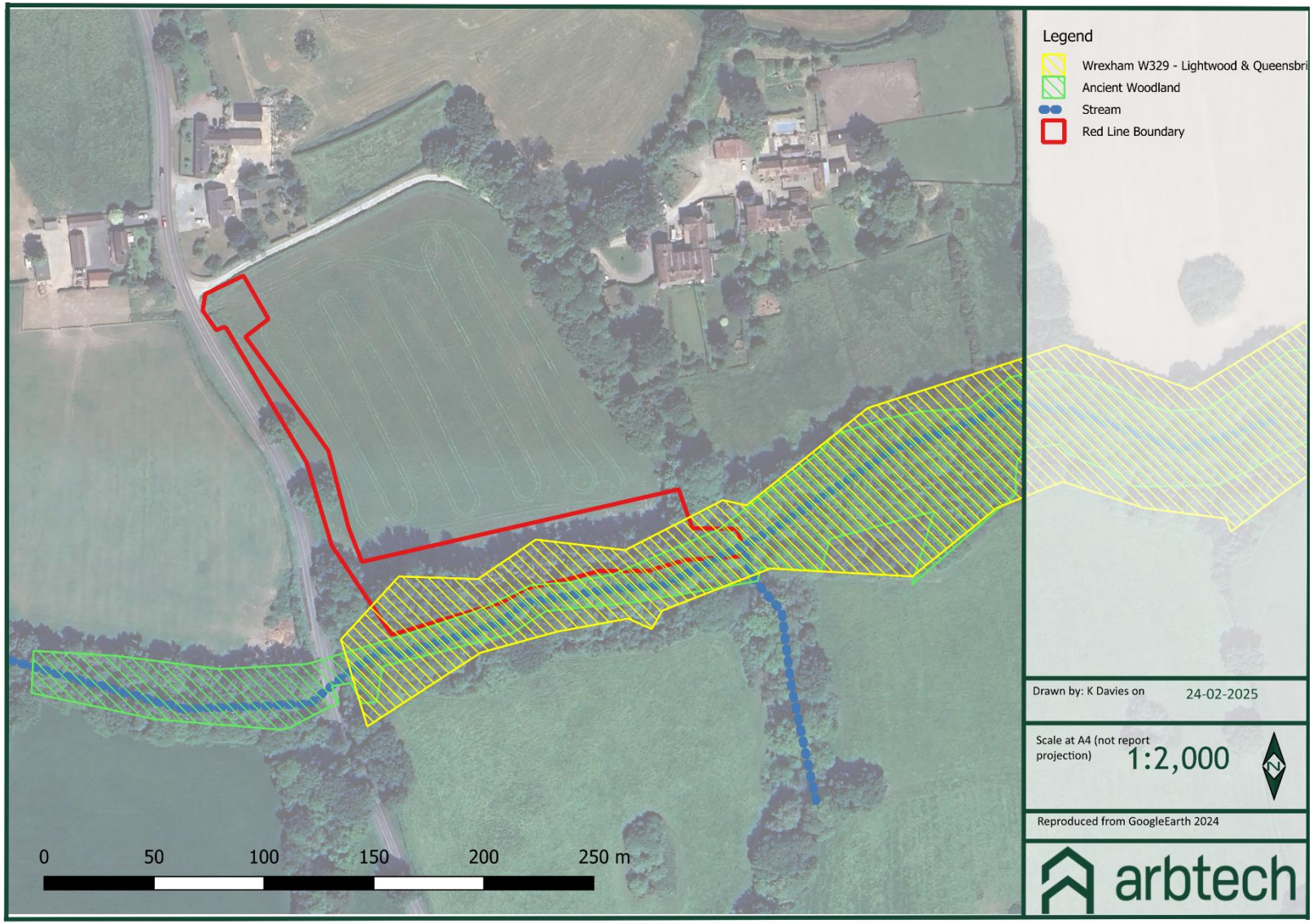
Appendix 1c: Ancient Woodland Location Map



Appendix 1d: Local Wildlife Site Map



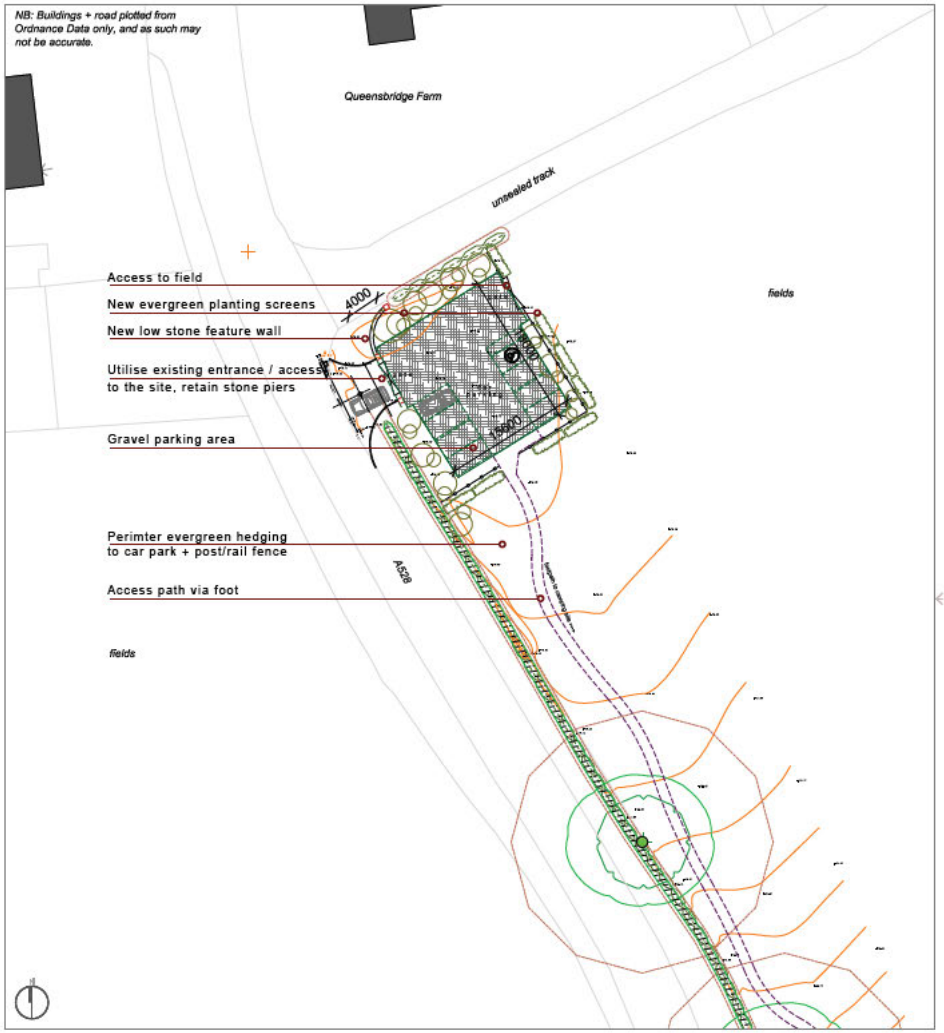
Appendix 1e: Onsite Designations And Notable Habitats



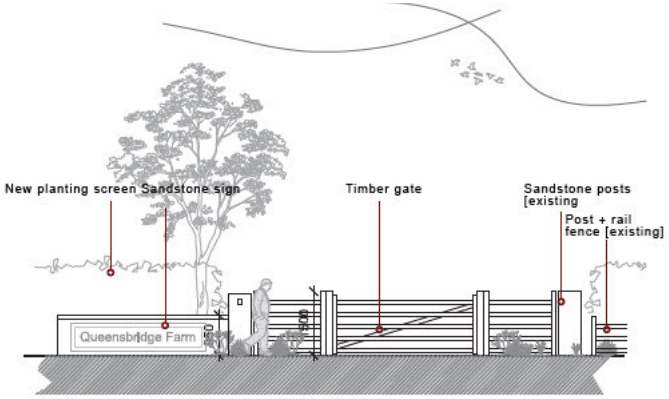
Appendix 2: Location map



Appendix 3: Proposed plan



[Img07] - proposed car park layout plan.
0m 10m 20m 30m
Scale: 1:500

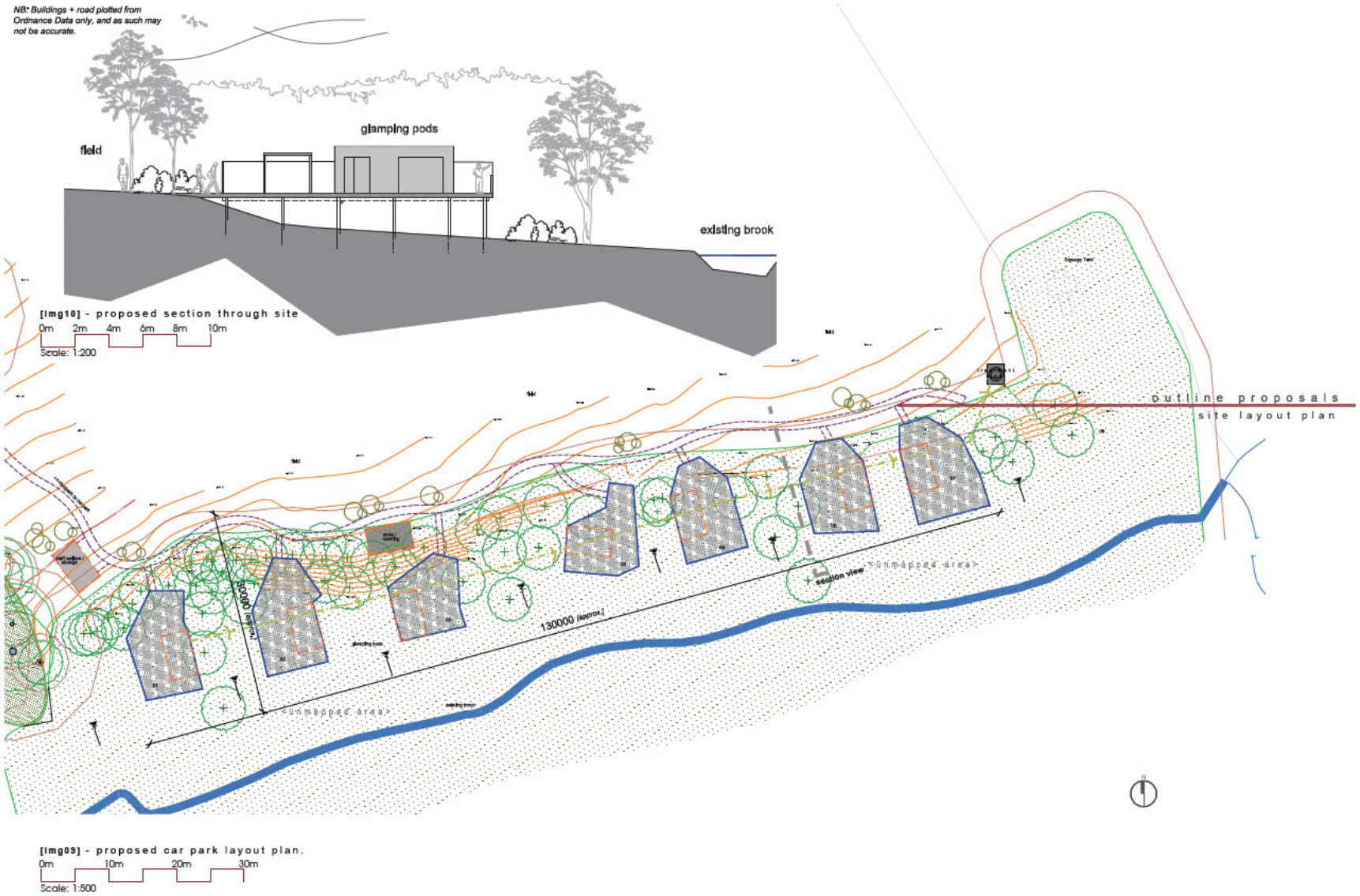


[Img08] - proposed site entrance elevation.
0 1m 2m 3m 4m 5m
Scale: 1:100

outline proposals
site layout plan



[Img06] - proposed site layout plan.
0m 20m 40m 60m 80m 100m
Scale: 1:2000


NB: Buildings + road plotted from Ordnance Data only, and as such may not be accurate.
glamping pods
field
existing brook
[Img10] - proposed section through site
0m 2m 4m 6m 8m 10m
Scale: 1:200
outline proposals
site layout plan
50000 (approx.)
130000 (approx.)
section view
<unmapped area>
[Img09] - proposed car park layout plan.
0m 10m 20m 30m
Scale: 1:500

Appendix 4: Ordinance Map – Shropshire VI 5 - 1901



Appendix 5 - Habitat Photos

Other neutral grassland	
Photograph	**Description**
	Fig 1 – grassland on site.
Other mixed woodland	
Photograph	**Description**
	Fig 2 – woodland to the south of the site.
Native hedgerow	
Photograph	**Description**

	Fig 3 – the hedgerow to the north of the site.
Stream	
Photograph	**Description**
	Fig 4 – the stream to the south.

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Status	**Issue**	**Name**	**Date**
Draft	0.1	Kayleigh Davies, BSc (Hons), MSc, Consultant Ecologist	21/02/25
Proof	0.2	Mel Reid BSc (Hons) MRes MRSB, Senior Consultant	28/02/2025
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