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Preliminary Ecological Appraisal

Survey site:

Land Opposite Codmore Field House, Hill Farm Lane, Codmore Hill, West Sussex, RH20 1BJ

Client:

MME Planning Services

Survey date:

19th November 2024

Project:

This report is prepared to inform a planning application with the Horsham District Council. The proposal is described as:

The construction of a four bedroom dwelling

PEA survey methodology and legislation can be found in the Arbtech Supplement: **PEA Methodology and Legislation - 2024.**

PRA survey methodology and legislation can be found in the Arbtech Supplement: **PRA Methodology and Legislation - 2024.**

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

Executive Summary

The survey site is centred on National Grid Reference TQ 05592 20313 and has an area of approximately 0.303ha. The habitats recorded on site consist of:

- Other woodland- mixed (w1h)
- Other neutral grassland (g3c) – with secondary codes scattered bracken (12), tall forbs (16) and scattered trees (32)

As a result of this survey, the following recommendations have been made:

- A Biodiversity Net Gain Assessment will be required
- An artificial low lighting strategy for bats and other nocturnal mammals will be required
- Phase II reptile surveys will be required within the months of April, May or September
- Precautionary Working Method Statements will be required for amphibians, hazel dormouse, badgers and other small mammals
- A Construction Environmental Management Plan may be required to protect the ancient woodland to the west of the site

Survey Details

The site survey was undertaken by Phillip Wooding BSc (Hons) MSc, Graduate Ecologist, an ecologist with a year of experience within a consultancy.

Date of survey	Temperature (°C)	Humidity (%)	Cloud Cover (%)	Wind (km/h)	Rain
19/11/2024	2	93	100	3	Light/moderate rain

Site Location and Context

The survey site is centred on National Grid Reference TQ 05592 20313 and has an area of approximately 0.303ha.

The site comprises one building, large areas of grassland, woodland and scattered trees which connect to the wider landscape. Using aerial imagery, the local landscape can be characterised by a matrix of woodland (the closest being 0.19km to the west), agricultural fields, a horse-racing yard, residential and commercial developments, farm buildings, minor roads, a railway line and the village of Codmore Hill. The geological profile consists of slowly permeable, seasonally wet slightly acid but base-rich loamy and clayey soils within a belt of Greensand, typified by scarp-and-dip slope topography, including outcrops of Upper Greensand, Gault Clay and Lower Greensand. The area is part of the Wealden Greensand National Character Area (120) with areas of ancient mixed woodland of hazel, oak and birch.

There is also a network of waterbodies, including the River Arun, within the wider landscape which likely enhance the area for a variety of species, including bats, amphibians and reptiles.

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. Due to seasonal limitations, further survey within the optimal season for surveying vegetation would normally be required to obtain accurate habitat classification and condition assessment data. However, in the case of this site, the delays involved would likely be disproportionate to the predicted likely value of the habitat proposed to be removed. Precautionary classification is drawn from analysis of the overwintering assemblage alongside information gathered during the desk study regarding geology, soils, hydrology, history, current and historic management, wider landscape context, assemblages present in local designated sites (and any other relevant factors). An estimation is made of how the site may differ in its condition variables between summer and winter. Acceptability of this approach will be at LPA discretion. 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.

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 **UKHabs codes used** **u1b5 –** Buildings **u1b** – Developed land; sealed surface	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). However, the site also contains woodland and grassland which could be of value to local wildlife populations (as detailed in subsequent sections of this table including condition assessments in **Table 1** and **Table 2**). Other habitats within the site are common and widespread and have low ecological value. Notable habitats are present within 2km as detailed in **Table 3**. **On-site habitat descriptions** **u1b5** – Buildings

w1h – Other woodland – mixed **g3c** – other neutral grassland **Essential UKHabs codes:** 12 – Scattered bracken 16 – Tall forbs 32 – Scattered trees	There was a small building completely covered in dense ivy towards the south of the site (**Figure 1**).  **Figure 1.** The small building completely covered in dense ivy towards the south of the site (photo taken November 2024). **u1b** – Developed land/sealed surface A small section of hardstanding was present next to the building on site. **w1h** – Other woodland - mixed Other woodland – mixed formed most of the western, southern and eastern boundaries (**Figures 2 and 3**) with patches of Bracken (*Pteridium aquilinum*) and Bramble (*Rubus fruticosus*) scattered throughout the understory with a ground covering of Ivy (*Hedera helix*). There was no evidence of damage or browsing to the trees however, some areas were covered in old tree clippings and bits of rubbish. This woodland is connected into the wider landscape through treelines, particularly towards the west however this treeline does appear to have gaps within the canopy and understory during spring/summer months.

The species recorded in the woodland were: Hazel (*Corylus avellana*), Silver birch (*Betula pendula*), Hawthorn (*Crataegus monogyna*), Willow spp. (*Salix spp.*), Western red cedar (*Thuja plicata*), Pedunculate oak (*Quercus robur*), Norway spruce (*Picea abies*), Goat willow (*Salix caprea*), Sycamore (A*cer pseudoplatanus*) and Field maple (*Acer campestre*). Large patches of Ivy dominated the ground flora throughout the woodland as well as areas of bare ground and Common nettles (*Urtica dioica*). It must be noted that the survey took place in the sub-optimal period for surveying the habitat type and there are caveats to the above relating to visibility of species and reliability of the data thus collected.

Figure 2. The southern section of the other woodland – mixed on site (photo taken November 2024).

Figure 3. The western section of the other woodland – mixed with wood clippings in the foreground (photo taken November 2024).

Table 1. Condition assessment for the other woodland – mixed on site.

Indicator	Score	Reason
A	2	Two age classes present
B	3	No significant browsing damage
C	2	Cotoneaster observed in the southeast corner
D	3	>5 native species recorded within the woodland
E	3	>80% of canopy and understory observed is native
F	2	21-40% of woodland has temporary open spaces

G	2	Two classes present within the woodland
H	3	No pests or dieback observed
I	1	No recognisable woodland NVC plant community due to suboptimal survey time and dense covering of Ivy
J	2	Two storeys across all survey plots
K	1	No veteran trees observed
L	1	Less than 25% of survey plots had deadwood
M	2	Areas of rubbish and tree clippings along the boundaries
Score/condition	**27**	**Moderate Condition**

g3c – Other neutral grassland with scattered bracken (12), tall forbs (16) and scattered trees (32)

The central and southern sections of the site consisted of other neutral grassland based on the species that were identifiable at the time (**Figure 4 and 5**). In areas of the grassland there was a significant bryophyte layer with no discernible thatch layer. There were patches of Bracken (*Pteridium aquilinum*), tall forbs and Bramble (*Rubus fruticosus*) and two Western red cedars (*Thuja plicata*) in the northwestern corner. Within the site boundary 6 species of vascular plants were observed, distributed at 3-5 sp per/m^2 with a sparse, open sward and areas of tall forbs that mainly consisted of Broadleaved dock (*Rumex obtusifolius*) and Common nettle, suggesting areas of nutrient enrichment and disturbance.

Historical imagery shows the progression of this property from a grazed horse paddock into rank grassland with areas of self-seeded woodland along the eastern and western boundaries. There is no evidence of regular management within the site boundary and this grassland connects to a larger horse grazed paddock to the north. Adjacent to the western boundary is a similar habitat which has also been left to turn rank and the woodland to self-seed. It must be noted that the survey took place in the sub-optimal period for surveying the habitat type and there are caveats to the above relating to visibility of species and reliability of the data thus collected. Species observed on site included:

A: Bryophyte species
F: Bramble, Common ivy, Broadleaved dock (*Rumex obtusifolius*)
O: Common nettle (*Urtica dioica*), Marsh willowherb (*Epilpbium palustre*), Commonlady fern (*Athyrium filix-femina*)
R: Ragwort (*Senecio jacobaea*)

Figure 4. The northern section of the other neutral grassland on site (photo taken November 2024).

Figure 5. The central section of the other neutral grassland on site (photo taken November 2024).

Table 2. Condition assessment for the other neutral grassland on site.

Indicator	Pass/Fail	Reason
A	Fail	A poor representation of the habitats type as per the UKHabs classification due to lack of species diversity
B	Pass	No variation amongst the sward levels
C	Pass	Bare ground was 1-5%
D	Fail	Bracken covered >20% and scrub covered >5% of the area
E	Pass	<5% of the grassland was damaged
F	Fail	Less than 10 vascular plant species per m^2
Score/Condition	**3 passes and fails essential criterion A and F**	**Poor condition**

Local notable habitats

There are 38 patches of deciduous woodland within 2km of the site, the closest is located 0.2km to the west of the site. Four of these patches are also designated ancient and semi-natural woodland, the closest is located 0.2km to the west. There is one patch of ancient replanted woodland 1.64km to the northwest of the site. The trees on-site likely have functional connectivity to the patch of woodland to the west, given its proximity to the site and the presence of numerous treelines and hedgerows throughout the landscape. Deciduous woodland is classed as a priority habitat under Section 41 of the Natural Environment and Rural Communities (NERC) Act, 2006. A corridor of coastal and floodplain grazing marsh is located 2.01km to the west of the site alongside the River Arun (detailed in **Table 3** below).

Table 3. Priority habitat within 2km of the site.

Priority habitat	Distance from site (approx.)
Deciduous woodland	38 patches of deciduous woodland within the 2km buffer. The closest is located 0.2km to the west.
Ancient and semi-natural woodland	4 patches of ancient and semi-natural woodland within the 2km buffer. The closest is located 0.2km to the west.
Ancient replanted woodland	1 patch of ancient replanted woodland within the 2km buffer which is located 1.64km to the northwest.
Traditional orchards	6 patches of traditional orchard within the 2km buffer. The closest is 1.6km to the west.
Coastal and floodplain grazing marsh	A corridor of coastal and floodplain grazing marsh is located 2.01km to the west of site and runs along the River Arun for approximately 7.1km from north to south.

Foreseen Impacts

On-site habitats

The proposed development could result in the loss of other woodland – mixed and other neutral grassland. This could result in a net loss in biodiversity at the site.

Notable habitats

No direct impacts to any notable habitats will occur because of the proposed development. However, due to the proximity of the site to both deciduous and ancient and semi-natural woodland (0.2km west), indirect effects (e.g. pollution, dust, litter, surface run off, etc.) could occur during construction.

Recommendations	**On-site habitats** The proposed development will result in the loss of approximately 150m^2 of poor condition other neutral grassland and 280m^2 of moderate condition other woodland-mixed. To compensate for this habitat loss the proposed habitat creation methods should be incorporated: • The retention and enhancement the remaining grassland to the rear of the property including increasing species diversity and sward length. • The retention of the remaining woodland across the property as well as enhancement to the understory and ground flora. **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. **Biodiversity net gain** The Environment Act (2021) requires all developments to deliver a 10% net gain in biodiversity however, it is understood that the proposed development will be a self-build development by the property owners and therefore, is considered exempt from Biodiversity Net Gain assessments.
Locality and Designated Sites	
Summary of Survey Findings	**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 and one site just beyond the 2km radius (as detailed in **Table 2**).

Table 2. Designated sites within 2km of the site.

Designated Sites	Distance from site (approx.)	Reasons for notification
Marehill Quarry SSSI	1.8km to the southeast	• Lower Greensand exposure • Sandgate Beds
Park Farm Cutting SSSI	2.02km to the southwest	• High biodiversity • Lower Greensand exposure • Sandgate Beds

	Non-statutory designated sites The presence of non-statutory designated sites within 2km of the site cannot be established without data from Sussex Biodiversity Records Centre.
Foreseen Impacts	**On-site designations** No impacts foreseen. **Statutory and non-statutory designated sites** The site lies within the impact risk zone for multiple SSSIs. The proposed development type is listed as a possible high risk for this designation.
Recommendations	**On-site designations** None required. **Statutory and non-statutory designated sites** The Local Planning Authority (LPA) may be required to consult with Natural England regarding potential impacts to multiple SSSIs.
Invasive and non-native species (INNS)	
Summary of Survey Findings	Cotoneaster (*Cotoneaster horizontalis*) was identified within the southeastern corner of the site, which is listed as an invasive, non-native species under Schedule 9 of the Wildlife and Countryside Act 1981. Due to the suboptimal time of surveying, other INNS may have been present but not observed due to seasonal limitations.
Foreseen Impacts	Construction could result in the spread of Cotoneaster and other INNS.
Recommendations	Any plants present on Schedule 9 of the Wildlife and Countryside Act 1981 are prohibited from release into the wild due to their capacity to cause ecological, environmental or socio-economic harm. Where Schedule 9 species are grown in private gardens, larger scale gardens, estates and amenity areas reasonable measures will be taken to confine them to the cultivated area so as to prevent their spreading to the wider environment and beyond the landowner's control. As such, not preventing the spread of Cotoneaster currently present on site, into the surrounding areas, this could constitute an offence. As such it is recommended that Cotoneaster is be dug up, including roots, and disposed of in line with appropriate controlled waste measures, or controlled during construction works to prevent the spread off-site.

<table>
<tr><th colspan="2">Invertebrates</th></tr>
<tr><td>Summary of Survey Findings</td><td>The grassland, bramble scrub and woodland present on-site 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.</td></tr>
<tr><td>Foreseen Impacts</td><td>Areas of the grassland and woodland on site will be removed during construction. However, the loss of such habitats is likely to be inconsequential to local invertebrate populations owing to the small scale of the development and the presence of more extensive habitat locally.</td></tr>
<tr><td>Recommendations</td><td>No further surveys.

Suggested biodiversity enhancements
Areas of retained grassland should be enhanced to create a flower-rich grassland that is not subjected to regular mowing and allowed to flower without interruption with areas of bramble that receive full sun retained. 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.</td></tr>
<tr><th colspan="2">Bats</th></tr>
<tr><td>Summary of Survey Findings</td><td>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. No EPSLs are present within a 2km radius of the site.

There are two Special Areas of Conservation within 10km of the site which are detailed in Table 3 below.

Table 3. Special Areas of Conservation within 10km of the site.
<table>
<tr><th>Special Area of Conservation</th><th>Distance from site (approx.)</th><th>Reasons for notification</th></tr>
<tr><td>The Mens</td><td>3.5km to the northwest covering an area of 204.69ha.</td><td>• Barbastelle (Barbastella barbastellus) are an Annex II species present as a qualifying feature, but not a primary reason for site selection.</td></tr>
<tr><td>Ebernoe Common</td><td>8.9km to the northwest covering an area of 234.93ha.</td><td>• A maternity colony of Barbastelles utilities a range of tree roosts within the area.</td></tr>
</table></td></tr>
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			• A maternity colony of Bechstein's bat (*Myotis bechsteinii*) is associated with this area. • These Annex II species are a primary reason for site selection.

Foraging and commuting habitat
Habitats recorded on site are assessed to provide foraging and commuting opportunities for bats in the form of other woodland - mixed and other neutral grassland. 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 trees on site are functionally linked to the wider landscape through vegetated linear features such as treelines and hedgerows, including the ancient woodland to the west of the site. Bats are well known to utilise linear features to aid navigation whilst travelling between foraging resources and roost sites.

Roosting habitat
The building on site was covered in a dense layer of ivy meaning that the presence of PRFs or the presence of bats was unable to be determined. The ivy could be considered to offer potential roosting habitat however, due to the small scale of the building and more extensive habitat available in the wider environment, it is considered negligible for roosting bats.

The trees within the woodland were subjected to a Ground Level Tree Assessment however, no PRFs were observed.

Foreseen Impacts

Roosting habitat [Buildings]
Bats are very unlikely to be roosting within this building and as such, there are not anticipated to be any impacts on bats in this location as a result of the proposed development.

Roosting habitat [Trees]
No features were identified on the trees and as such there are unlikely to be any impact to roosting bats as a result of felling.

Foraging and commuting habitat
The proposed development will result in the removal of a small area of habitats which could be used by foraging or commuting bats however, there are more optimal and extensive habitats within the wider landscape. Nevertheless, 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.
Recommendations	**Roosting habitat [Buildings]** In the unlikely event that a bat or evidence of bats is discovered during the development all work must stop and a bat licensed ecologist contacted for further advice. **Roosting habitat [Trees]** In the unlikely event that a bat or evidence of bats is discovered during the development all work must stop and a bat licensed ecologist contacted for further advice. **Foraging and commuting habitat** No further surveys 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** The installation of two bat boxes at the site will provide additional roosting habitat for bats. One of the bat boxes will be incorporated into the fabric of the new dwelling and another will be placed on a mature tree within the site boundary. Suitable bat boxes include Habibat Bat Box, Ibstock Enclosed 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	**Buildings** No evidence of nesting birds was identified on the building. The building is deemed to provide negligible habitat value for nesting birds due to a lack of suitable nesting sites or access points.

	Trees and vegetation No bird nests were identified within the woodland on-site, however it does 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.
Foreseen Impacts	**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.
Recommendations	**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. The buffer will need to be increased in the event of the presence of any Schedule 1 species as reckless disturbance as well of destruction of the nests of such species is an offence. Buffer zones regarding schedule 1 species are on a case by case, species by species basis and must be reflected accordingly. **Barn owls** None required.

	Overwintering birds None required. **Suggested biodiversity enhancements** The installation of a minimum of three bird boxes on mature trees around the site boundaries or on newly constructed 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) • 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	
Summary of Survey Findings	**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 foraging, commuting, basking and refuge opportunities for reptiles. The grassland and patches of bramble provide elevated value for reptiles as these habitats provide a suitable structure for refuge, whilst also providing foraging and commuting opportunities. Furthermore, the site has good connectivity into the wider landscape where grassland, hedgerows, woodland edges and scrubby areas are present.

	Wider landscape The wider landscape consists of grasslands, hedgerows and woodland edges which are all of ecological value and may provide important resources for reptiles. 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	Other woodland – mixed and other neutral grassland will be removed during construction. However, 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
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). 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 no granted EPSL records for Great Crested Newts (GCN) 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. **Aquatic habitat suitability (including ponds within 500m)** GCN exist in metapopulations and are known to utilise ponds and their connecting terrestrial habitat during their life cycle; GCN are typically found within terrestrial habitats up to 500m from breeding ponds (Langton et al. 2001). There are no ponds on the site, but a review of aerial imagery (MAGIC and OS Maps) indicates the presence of five ponds within 500m; all ponds are within privately owned land and the distances from site are detailed in **Table 4** below. Ponds 1-3 are terrestrially connected to the site due to the absence of definitive barriers to dispersal. However, ponds 4 and 5 have limited connectivity to the site due to multiple tarmac roads and residential dwellings with private gardens. These landscape features combined are assessed to represent a significant barrier to dispersal limiting access from these ponds to the site for GCN.

Table 4. Ponds within 500m of site.

Pond number	Distance from site (approx.)
P1	133m north
P2	314m northeast
P3	370m northeast
P4	339m northeast
P5	425m southeast

A pond map showing approximate pond locations is provided in **Appendix 4**.

Terrestrial habitat suitability

The site provides suitable terrestrial habitat for amphibians (i.e. woodland, rank grassland) which is also connected to the wider landscape through hedgerows and treelines. There are three ponds within 500m that provide suitable connectivity to the site however, these are located within private land.

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 430m^2 of woodland and grassland. If GCN are present within the pond 133m to the north 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 6** below).

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)	0.1 - 0.5 ha lost or damaged	0.1
Land >250m from any breeding pond(s)	0.1 - 0.5 ha lost or damaged	0.005
Individual great crested newts	No effect	0
	Maximum:	0.1
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

Figure 6. A screenshot of the rapid risk assessment for GCN at Land Opposite Codmore Field House.

Recommendations	Owing to the nature of the proposed development and the low potential for impacts to GCN, further surveys are considered to be disproportionate. A highly precautionary working method will be implemented for common amphibians during construction, including the following measures: • A staged approach will be adopted for vegetation clearance, whereby the vegetation will be strimmed to 15cm and left overnight to allow any amphibians to disperse. The vegetation can then be cleared to ground level and must be maintained at this level for the duration of construction to deter amphibians from the working area. • Any rubble piles will be dismantled by hand and debris and brash will be stored on pallets or removed from the site to prevent amphibians from utilising these areas. • Best practice pollution prevention measures will be implemented to minimise impacts to nearby aquatic habitats that amphibians 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 common amphibians are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance. • In the unlikely event that a great crested newt is identified, works must cease and advise must be sought from a suitably qualified ecologist. **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	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.
Foreseen Impacts	No works will be undertaken within 30m of a badger sett. Woodland and grassland areas will be removed during construction. The loss of such habitats is likely to be inconsequential to local badger 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 badgers, if present.

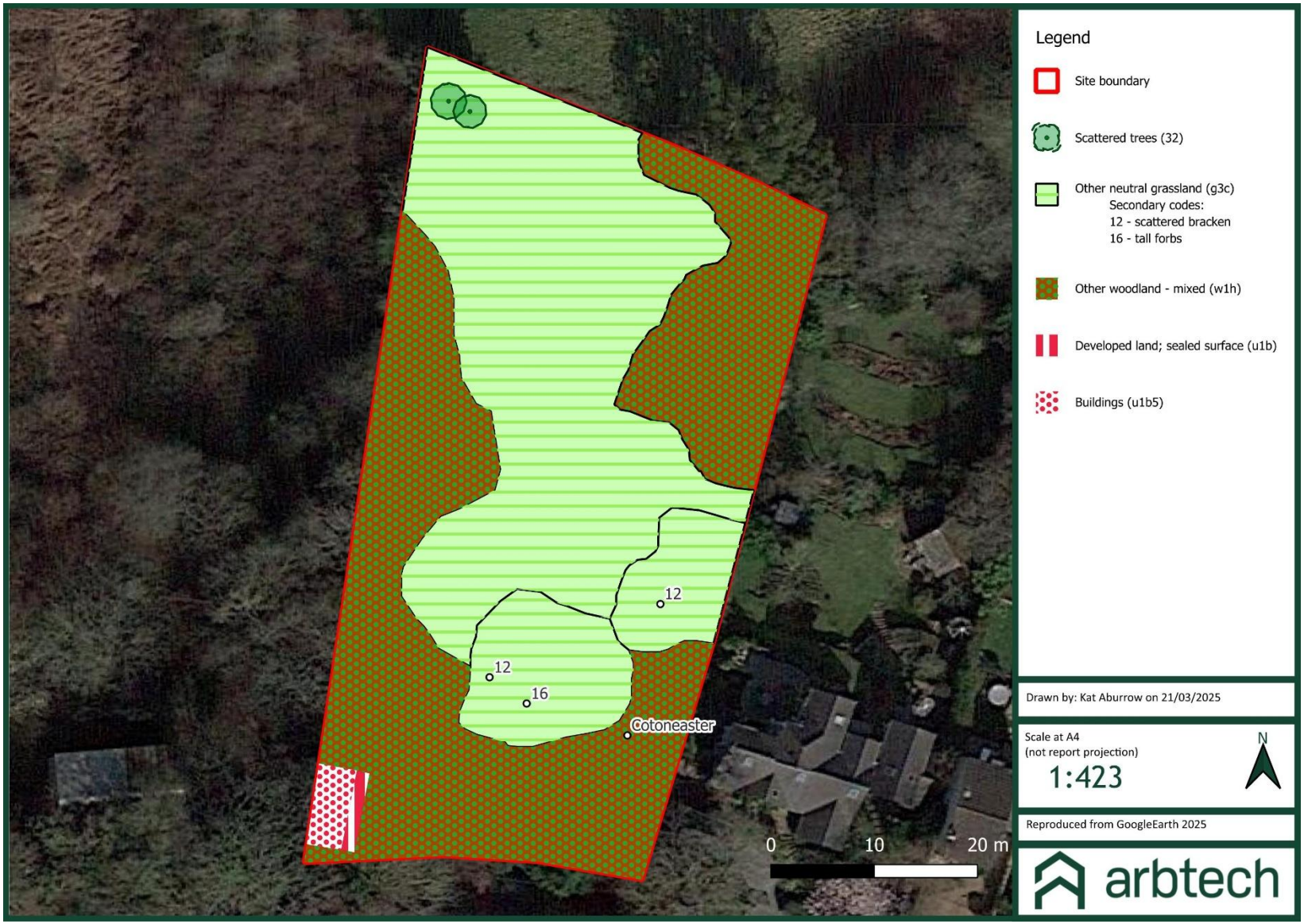
Recommendations	Owing to the nature of the proposed development and the low potential for impacts to bat roosts, further badger surveys are considered to be disproportionate. A precautionary working method will be implemented during construction, including the following measures: • A toolbox talk will 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. • 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	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 no granted EPSL records for hazel dormice within 2km of the site. Freely available online resources show one record for hazel dormouse 0.9km to the east 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). Although 20ha of woodland is not present on or directly adjacent to the sites, the hedgerows and treelines present are connected to an extensive network of vegetated linear features within the wider landscape, which in turn, are connected to multiple woodland pockets. The closest being the 3.8ha patch of deciduous and ancient woodland 0.2km to the west. Habitats on site are assessed to provide foraging, commuting, and nest building opportunities for dormice in the form of woodland. However, the woodland lacks the structure that would provide optimal habitat for dormice.
Foreseen Impacts	Other woodland - mixed will be removed during construction. The loss of such habitats is likely to be inconsequential to local dormouse populations owing to its low value and the presence of more extensive habitat locally. However, site clearance could result in the death or injury of dormice, if present.
Recommendations	Owing to the nature of the proposed development and the low potential for impacts to dormice, further dormouse surveys are considered to be disproportionate. However, due to the presence of hazel dormouse records within 2km of the site. A highly 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 advise must be sought from a suitably qualified ecologist.
Other terrestrial mammals	
Summary of Survey Findings	The woodland and grassland onsite provides foraging and commuting opportunities for hedgehogs, with extensive woodland and grassland habitat nearby as well as residential gardens.
Foreseen Impacts	Woodland and grassland will potentially 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.
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 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.

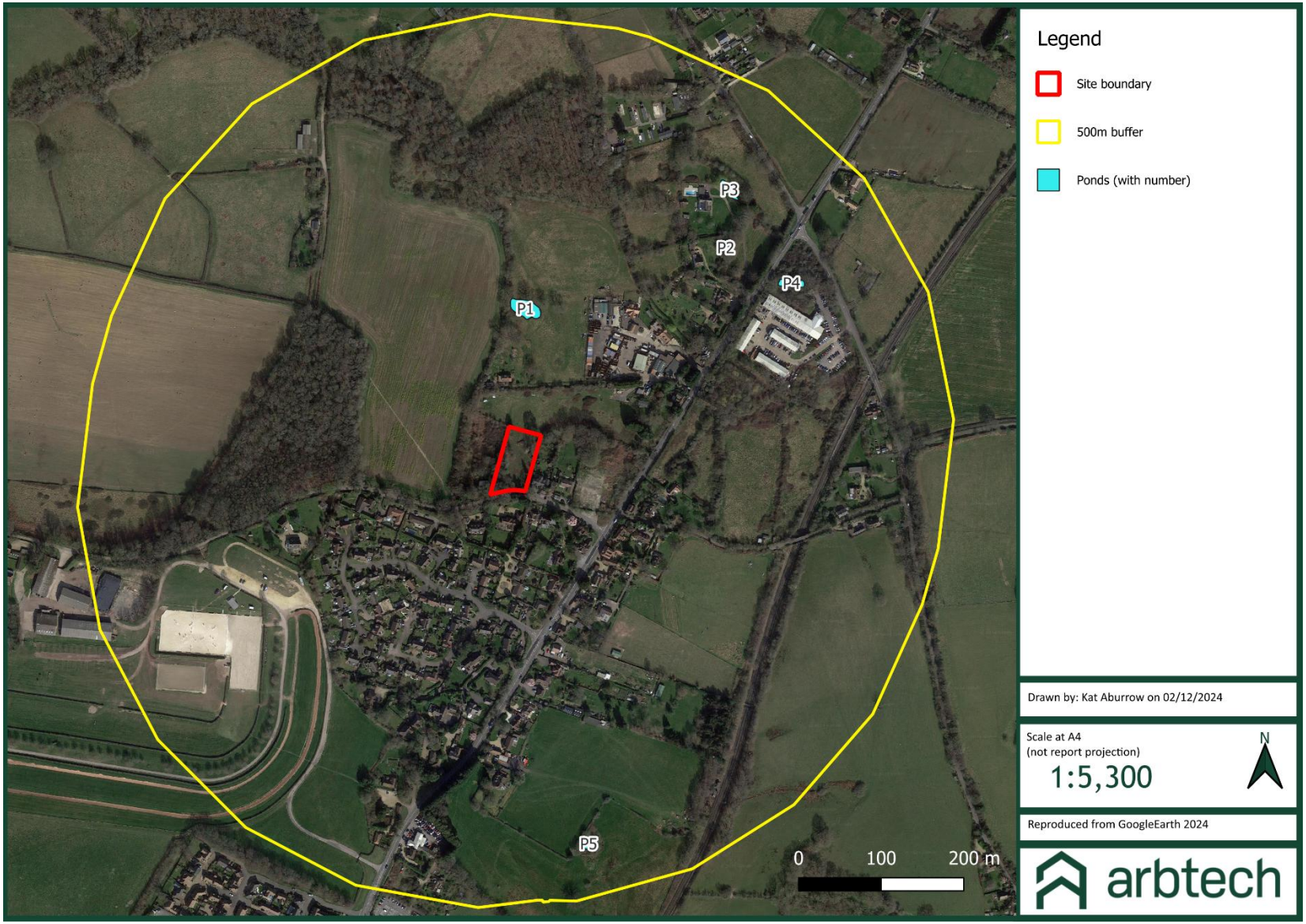
Appendix 1: Site Location

Appendix 2: UKHabs Map



Appendix 3: Proposed plan

Appendix 4: Pond Map



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