

Preliminary Ecological Appraisal and Roost Assessment

Survey site:

Barns at Winch Hill, Wandon End, Luton, LU2 8PA

Client:

Cube Metals Limited

Survey date:

28th October 2025

Project:

This report is prepared to inform a planning application with the North Hertfordshire District Council. The proposal is described as:
Recladding & Reroofing of barns. Change of Use from Agricultural to General Industrial (B2) & Storage/Distribution (B8). Security Fencing, Parking & Alteration to Existing Access

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

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

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

Site Location and Context					
The Barns at Winch Hill, LU2 8PA (hereafter referred to as ‘the site’) is located at National Grid Reference TL 13791 21762 and has an area of approximately 0.62ha. The local soil composition is noted as slightly acid loam and clay-based soils with slightly impeded drainage and moderate to high fertility (Land IS, 2025). The bedrock geology is primarily chalk with sedimentary superficial deposits comprising clay, silt, sand, and gravel (BGS, 2025). The site comprises two large agricultural barns (B1 and B2), artificial sealed surfacing, several trees (T01-T05), and grassland areas. The site is located approximately 0.45km northeast of the London Luton Airport. Aerial imagery of the local area shows a primary arable land use, with interspersed woodland pockets and rural access roads throughout. As such there are extensive agricultural managed and natural unmanaged green spaces within the vicinity, including Burnt Wood (approximately 0.7km south), Sewett’s Wood (approximately 1.34km southeast), and Watkin’s wood (approximately 1.61k, northeast). There are no major watercourses nearby, although several small ponds are located within a 2km radius. The proximity of the site to nearby wild and maintained green spaces likely increase the site suitability for local wildlife populations.					
Survey Details					
The site survey was undertaken by Inez Daly, Consultant Ecologist and Accredited Agent on Natural England Bat Licence – 2018 -33540-CLS-CLS.					
Date of survey	Temperature (°C)	Humidity (%)	Cloud Cover (%)	Wind (km/h)	Rain
28/10/2025	13	67	40	25	None
Executive Summary					
- Best practice measures to minimise the possibility of pollution affecting further nearby notable habitats must be implemented during construction. A Construction Environment Management Plan (CEMP) may be required for this. - Precautionary working methods are required for birds, reptiles, amphibians, and mammals including hedgehogs and badgers.					
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 condition assessment of on-site habitats was carried out outside of the optimal survey period for flora, therefore further indicator species or condition attributes may have been missed. However, an abundance of characteristic species were identified for the habitat types, thus the suboptimal survey timing warrants an insignificant limitation and does not alter the conclusions of this report.	
Ecological Survey Factor Conclusion, Impact or Recommendations	Detailed using desk study and site survey (carried out under good weather conditions). Any specific limitations noted within relevant section. This table may include further work you will need to commission (if any) to obtain planning permission or comply with legislation for other consent. All clients are expected to read and understand this section, or to contact the lead surveyor for advice.
Habitats and plants (see survey/habitat map in appendix 1, location map in appendix 2, proposed plans in appendix 3, tree condition sheet in appendix 4, and additional photos in appendix 5). Botanical species are described with reference to the DAFOR scale (D = Dominant; A = Abundant, F = Frequent, O = Occasional, R = Rare).	
<i>Summary of Survey Findings</i>	The site does not contain any habitats of principal importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006). Habitats within the site are common and widespread and have low ecological value. There are three off-site notable habitats present within 2km. To the author's knowledge no previous ecology reports have been produced for this site. On-site habitat descriptions <u>u1b – Developed land – sealed surface</u> A small, paved section is present between B1 and B2. A paved path is located to the northwest and southwest elevations of B2 <u>u1b5 – Buildings</u> There are two buildings on site.

B1 and B2 are large disused agricultural storage barns with corrugated metal construction and timber support beams.

u1f, 81 – Sparsely vegetated urban land with ruderals

Areas to the north B1 and B2, and between B1 and B2, comprise artificial unsealed surfacing with a successional low-lying vegetative cover of approximately 50% throughout. Species include butterfly bush *Buddleja davidii*, ragwort *Jacobaea vulgaris*, great mullein *Verbascum Thapsus*, and common nettle *Urtica dioica*. Further ruderal areas are present along earth banks located at the northwest site boundaries and along the northwest elevation of B1 and northeast elevation of B2. Plant species noted include:

Common name	Scientific name
Bramble	<i>Rubus fruticosus</i>
Butterfly bush	<i>Buddleja davidii</i>
Common stinging nettle	<i>Urtica dioica</i>
Cow parsley	<i>Anthriscus sylvestris</i>
Great mullein	<i>Verbascum thapsus</i>
Ragwort	<i>Jacobaea vulgaris</i>
Ribwort plantain	<i>Plantago lanceolata</i>

Group	Pass/fail criteria	Description
1. Varied vegetation structure	Pass	Varied range of plant species present with no dominate (>80%) species noted
2. Diverse range of flowering plant species	Pass	As above
3. Invasive non-native species <5%	Pass	One non-native plant noted (red hot poker <i>Kniphofia sp.</i>)
Total = 3 of 3	Good	

U510 – Bare ground

Areas to the north of B1 and B2 comprise dug bare ground.

u200 – Individual trees

There are five trees on site. The tree condition assessment sheet is available in Appendix 4.

Species	DBH(cm)	Size class	Condition score	Category (of 6)
<i>Acer platanoides</i>	15.91	Young	Poor	2
<i>Sambucus nigra</i>	14.32	Young	Moderate	4
<i>Sambucus nigra</i>	19.09	Young	Moderate	4
<i>Sambucus nigra</i>	9.54	Young	Moderate	4
<i>Prunus avium</i>	15.91	Young	Moderate	3

g3c5 – Arrhenatherum neutral grassland

The north and southeast areas of the site comprises arrhenatherum neutral grassland as identified via the soils present and species composition, although the habitat parcel lacks complex species diversity. The grassland is unmanaged. Species identified include:

Common name	Scientific name	DAFOR frequency
Cock's foot	<i>Dactylis glomerata</i>	A
Common stinging nettle	<i>Urtica dioica</i>	A
Couch grass	<i>Elymus repens</i>	D
Meadow buttercup	<i>Ranunculus acris</i>	O
Mugwort	<i>Artemisia vulgaris</i>	F
Ragwort	<i>Jacobaea vulgaris</i>	F

and has been assessed as follows:

Group	Pass/fail criteria	Description
A. Parcel represents good example of habitat type	Pass	Species indicative of habitat parcel type
B. Varied sward height	Pass	Sward height 5-60cm throughout
C. Cover of bare ground 1%-5%	Fail	No bare ground present
D. Bracken and scrub cover <5%	Pass	No bracken, scrub cover <5%

	E. Suboptimal species and physical damage <5% Fail F. 10 or more vascular plant per m² Fail Total: 3/6 = Moderate g14 – Tall forbs The southern portion of the site comprises a large stand of common stinging nettle <i>Urtica dioica</i>. <table border="1"> <thead> <tr> <th>Group</th><th>Pass/fail criteria</th><th>Description</th></tr> </thead> <tbody> <tr> <td>1. Varied vegetation structure</td><td>Fail</td><td>Nettles present only</td></tr> <tr> <td>2. Diverse range of flowering plant species</td><td>Fail</td><td>Nettles present only</td></tr> <tr> <td>3. Invasive non-native species <5%</td><td>Pass</td><td>None noted</td></tr> <tr> <td>Total = 1 of 3</td><td>Poor</td><td></td></tr> </tbody> </table> h3d – Bramble scrub Bramble scrub is occasionally present throughout the site. w33 – Line of trees A line of trees comprising elder <i>Sambucus nigra</i> and hawthorn <i>Crataegus monogyna</i> is located within the east area of the site. The line of tree condition assessment sheet is available in Appendix 4. <table border="1"> <thead> <tr> <th>Group</th><th>Pass/fail criteria</th><th>Description</th></tr> </thead> <tbody> <tr> <td>A. Native trees 70% minimum</td><td>Pass</td><td>Native species only</td></tr> <tr> <td>B. Tree canopy continuous</td><td>Pass</td><td>Predominately continuous with no large gaps; <10% of total area</td></tr> <tr> <td>C. Minimum 1 tree contains veteran features or ecological niches</td><td>Fail</td><td>No veteran or ecological niches noted</td></tr> <tr> <td>D. Naturally undisturbed 6m vegetated ground on both sides</td><td>Pass</td><td>Arrhenatherum neutral grassland along majority length</td></tr> <tr> <td>E. Minimum 95% trees in healthy condition</td><td>Pass</td><td>No visible diseases noted</td></tr> </tbody> </table>	Group	Pass/fail criteria	Description	1. Varied vegetation structure	Fail	Nettles present only	2. Diverse range of flowering plant species	Fail	Nettles present only	3. Invasive non-native species <5%	Pass	None noted	Total = 1 of 3	Poor		Group	Pass/fail criteria	Description	A. Native trees 70% minimum	Pass	Native species only	B. Tree canopy continuous	Pass	Predominately continuous with no large gaps; <10% of total area	C. Minimum 1 tree contains veteran features or ecological niches	Fail	No veteran or ecological niches noted	D. Naturally undisturbed 6m vegetated ground on both sides	Pass	Arrhenatherum neutral grassland along majority length	E. Minimum 95% trees in healthy condition	Pass	No visible diseases noted	Common nettle present over >5% of total area 3 species per m²
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	Total 4/5 = Moderate Local notable habitats Further priority habitats were found within a 2km radius to the site: <table> <tr> <th>Priority Habitat Inventory Type</th><th>Closet habitat parcel distance from site</th></tr> <tr> <td>Deciduous woodland</td><td>0.12km south</td></tr> <tr> <td>Ancient woodland</td><td>0.35km south</td></tr> <tr> <td>Traditional orchards</td><td>0.57km north</td></tr> </table>	Priority Habitat Inventory Type	Closet habitat parcel distance from site	Deciduous woodland	0.12km south	Ancient woodland	0.35km south	Traditional orchards	0.57km north
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Deciduous woodland	0.12km south								
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Traditional orchards	0.57km north								
<i>Foreseen Impacts</i>	On-site habitats The proposed development will result in a change of use for the B1 and B2, with additional vehicular accesses and parking areas, new access roads to the site, and erection of security fencing. The works will involve removals of vegetated areas to the southwest and northwest and the removal individual trees to facilitate the development. This will have a detrimental impact on biodiversity across the site due to the ecological value of the habitats affected. Notable habitats No direct effects on notable habitats are anticipated, although nearby notable habitats (in particular the deciduous and ancient woodland parcels) may be affected due to construction activities (i.e., increased traffic, pollution, dust, litter, surface run off, etc.).								
<i>Recommendations</i>	On-site habitats Retained trees should be protected in line with the measures outlined in the British Standard "Trees in Relation to Design, Demolition and Construction to Construction - Recommendations" (BS 5837) (2012). Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to Control of Substances Hazardous to Health (COSHH) regulations to avoid pollution to on-site and nearby habitats. Site enhancements are outlined below: - Consider replacing new hardstanding areas with grasscrete where possible - Maintain areas of arrhenatherum grassland at a tall sward to encourage invertebrate and small mammal habitats on site - Consider restricting foot and vehicular traffic from the eastern site areas to prevent encroachment onto natural habitats (grassland, line of trees etc)								

	- Retain and reseed verge areas at the site boundaries with a native flowering seed mix to replace lost vegetated areas at the northwest and southwest areas insofar as possible Notable habitats Best practice measures to minimise the possibility of pollution affecting further nearby notable habitats must be implemented during construction. A Construction Environment Management Plan (CEMP) may be required for this. Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations to avoid pollution to the neighbouring habitats. Biodiversity net gain (BNG) The Environment Act (2021) requires all developments (excluding exemptions) to deliver a 10% net gain in biodiversity. The proposed plans will affect more than 25m² of on-site habitat and BNG calculations must be measured.
Locality and Designated Sites	
<i>Summary of Survey Findings</i>	On-site designations The site is not located within any designated sites. Statutory designated sites (within 2km) There are no further statutory sites within 2km of the site. Non-statutory designated sites The presence of non-statutory designated sites within 2km of the site cannot be established without further biological records data (BRD). However, due to the scope of the proposed works and the size of the site, BRD is unlikely to be of value for this assessment.
<i>Foreseen Impacts</i>	On-site, statutory and non-statutory designated sites The site does not lie within any Impact Risk Zones (IRZ) for further Sites of Special Scientific Interest (SSSIs).
<i>Recommendations</i>	On-site, statutory and non-statutory designated sites None required.
Invasive / Non-native species	

<i>Summary of Survey Findings</i>	No problematic invasive species were identified on site.
<i>Foreseen Impacts</i>	None.
<i>Recommendations</i>	None required.
Invertebrates	
<i>Summary of Survey Findings</i>	The habitats present on-site, including the grasslands, tall forbs, ornamental hedgerow, bramble scrub, and trees, likely provide common invertebrates with good opportunities to forage and shelter. In addition, open buildings may provide further shelter for invertebrates.
<i>Foreseen Impacts</i>	The proposed development will result in the removal of the southern area of tall forbs and bramble and replace areas of sparsely vegetated land with hardstanding. The loss of such habitats will result in a reduction in invertebrate habitat. The proposed works is unlikely to result in the fragmentation of the local landscape due to the presence of further suitable habitat locally.
<i>Recommendations</i>	Due to the small size of the site and scope of proposed works, no further surveys are required. Suggested site enhancements The site could be enhanced for invertebrates' post-development by reseeding verges of new unvegetated areas with a seed mix containing native flower grasses and vascular plants and allowing these areas to grow at a longer sward, to mitigate for lost habitats.
Bats	
<i>Summary of Survey Findings</i>	European Protected Species Licensing (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. It is important to note that the majority of land contained within a 2km radius of the site comprises arable landscape and woodlands with no developments contained therein. EPSLs will only be present should previous records of roosting bats be found during planning works and as such the lack of further EPSLs within the locality does not necessarily correlate to local populations of roosting bats.

	There are no Special Areas of Conservation designated for bats within 10km of the site. Foraging and commuting habitat Habitats recorded on site are assessed to provide suitable foraging opportunities for bats in the form of grasslands, tall forbs, trees, and bramble scrub. These habitats are likely to provide micro-climatic conditions that support invertebrates that will in turn provide foraging opportunities for local bat populations. B1 and B2 may also provide suitable sheltered areas for bat foraging due to the open access to the interiors of the structures. Linear features in the form of the external elevations of B1 and B2 may aid navigation for local bats as bats are well known to utilise linear features to aid navigation whilst travelling between foraging resources and roost sites. The foraging and commuting value of the site has been assessed as moderate. Roosting habitat (trees) No suitable roosting features for bats (i.e., cavities, thick ivy, deadwood cavities, lifted bark, etc) were found on the on-site trees nor within the line of trees. The on-site trees and line of trees have been assessed as NONE. No further trees are present within the red line boundary. Roosting habitat (buildings) The on-site buildings have been assessed for roosting value for bats below:
B1 Building description	Photographs
B1 is a disused agricultural building of corrugated metal and timber support beam construction. There are no internal linings in the building. The corrugated metal throughout the building is in poor condition with gaps and damaged areas throughout. The building is accessible from the open area at the west elevation. The gaps between the internal support	

beams and the corrugated roofing materials are large and not suitably sheltered for roosting bats. Due to the open nature of the building the structure is unlikely to provide temperature stable environments for hibernating bats. No evidence of roosting bats was found on or within the structure; the corrugated materials are unlikely to support roosting bats and as such the building is assessed to contain negligible habitat value for roosting bats.	
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B2 Building description		Photographs									
B2 is a disused agricultural building of corrugated metal and cinderblock construction. There are no internal linings in the building. The building is entirely open at the north elevation. Large roof panels are missing throughout. Similar to B1, the gaps between the internal support beams and the corrugated roofing materials are large and not suitably sheltered for roosting bats. Due to the open nature of the building the structure is unlikely to provide temperature stable environments for hibernating bats. No evidence of roosting bats was found on or within the structure; the corrugated materials are unlikely to support roosting bats and as such the building is assessed to contain negligible habitat value for roosting bats.											
Foreseen Impacts	The roosting values for the buildings on site are as follows:										
	<table><tr><th>Building no.</th><th>Suitability</th><th>Affected by works</th></tr><tr><td>B1</td><td>Negligible</td><td>Yes</td></tr><tr><td>B2</td><td>Negligible</td><td>Yes</td></tr></table>		Building no.	Suitability	Affected by works	B1	Negligible	Yes	B2	Negligible	Yes
	Building no.	Suitability	Affected by works								
	B1	Negligible	Yes								
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Roosting habitat											
The proposed works will result in the recladding and reroofing of the buildings. No suitable roosting features are present across either building and as such no affects to roosting habitat is anticipated.											
Foraging and commuting habitat											
The proposed works will involve the clearance of tall forbs, bramble scrub, and sparsely vegetated land, which will result in a decrease of suitable invertebrate habitat on site, thus affecting the foraging habitat for bats. Further site areas containing arrhenatherum neutral grassland and the line of trees will remain unaffected and as such is not considered detrimental to local foraging bats.											
Artificial lighting											

	The proposed development may include the addition of external artificial lighting on site during and post development. Local bats may be deterred from foraging or commuting on site during works due to works lighting. New permanent lighting may deter foraging bats post-development.
<i>Recommendations</i>	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. Foraging and commuting habitat A low impact lighting strategy will be adopted for the site during and post-development which outlines the areas of the site that will be retained as dark corridors. Retained grassland and the tree line should avoid high light spill, where possible. 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 four bat boxes at the site will provide additional roosting habitat for bats. The bat boxes will be incorporated into the renovated fabric of the buildings They will be suitable for pipistrelles and void-dwelling bats. Suitable bat boxes include the 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	
<i>Summary of Survey Findings</i>	Buildings Evidence of previous nesting birds was found within B1 in the form of concentrated bird droppings beneath one of the internal timber beams. Destroyed nesting materials are present between the timber beam and the roofing materials above. No further evidence of nesting birds was found. Both buildings provide suitably sheltered nesting habitat for small birds between the support beams and the roofing materials. The exposed top of the cinderblock internal wall in B2 may provide a narrow platform nesting opportunity for birds such as pigeons <i>Columbidae</i> sp. Trees and vegetation

	The rural nature of the site indicates that the individual trees, line of trees, and bramble, likely provide suitable nesting habitat for small birds such as the robin <i>Erithacus rubecula</i>, especially due to the lack of significant disturbances throughout the site. The tall sward height, high forb cover, and lack of regular maintenance indicate the site is unsuitable for nesting skylarks <i>Alauda arvensis</i>. Barn owls There are no suitable nesting habitat (i.e., platforms) for barn owls <i>Tyto alba</i> within the buildings. There are no further structures suitable for nesting barn owls on site. Overwintering birds Due to the size of the site and the extent and type of the habitats recorded, the site is not considered suitable to support a significant assemblage of protected and/or notable birds.
<i>Foreseen Impacts</i>	Buildings The proposed works will result in the recladding and reroofing of the barns, which may result in the destruction or the disturbance and subsequent abandonment of active bird nests, if present at the time of works. Increased footfall and demolition and construction activities are likely to disturb active nests across the site, if present. Potential nesting habitat will be lost. Trees and vegetation The proposed development could result in increased footfall and vehicular traffic and noise pollution during works, which may result in the disturbance and subsequent abandonment of active bird nests nearby. Barn owls None foreseen. Overwintering birds None foreseen.
<i>Recommendations</i>	Buildings Site works, including further site clearance and the recladding and reroofing of the buildings, should be undertaken outside the period 1st March to 31st August. If this timeframe cannot be avoided, a close inspection of

	the suitable features on the buildings and throughout the vegetation on site 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 on-site 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 box per building (4 in total) shall be incorporated into the new fabric of the buildings and will provide additional nesting habitat for birds e.g. Schwegler No 17 Swift Nest Box (buildings) Schwegler 1SP Sparrow Terrace (buildings) Woodstone Nest Box (buildings or trees) Or a similar alternative brand. Swift and sparrow boxes should be positioned at the eaves of a building and can be incorporated into the fabric of the building during construction.
Reptiles	
<i>Summary of Survey Findings</i>	EPSL data A review of the MAGIC database returned no granted EPSL records for protected reptiles within 2km of the site. Habitat suitability The majority of the site grounds consist of arrhenatherum grassland and tall forbs comprising nettles. These habitats are noted to provide foraging, commuting, and refuge opportunities for reptiles due to the sward height providing suitable vegetative coverage. Basking opportunities are present where these habitats border areas of

	low vegetative cover (i.e., sparsely vegetated land and areas of hardstanding). It is worth noting that the site is not connected to any local hedgerow networks; the line of trees does not connect to any further woodlands and the surrounding land comprises arable fields and uncurbed roads. While these do not present as obstructions of reptile movement, the lack of significant vegetated routes (i.e., hedgerows) from the site to the local landscape may suggest suboptimal commuting routes for local reptile populations throughout the site. Wider landscape The further arable landscape and woodland pockets within the vicinity are likely to represent important resources for local reptile populations. Hedgerows bordering agricultural fields and connected woodlands and copses are likely to provide excellent commuting routes throughout the local landscape and as such the presence of reptiles using these adjacent habitats cannot be discounted.
<i>Foreseen Impacts</i>	Proposed works will result in the clearance of the tall forbs at the south, and the removals of bare and sparsely vegetated land. The loss of such habitats may result in the minimal loss of suitable reptile habitats as the area of suitable affected habitat measures less than 0.3ha. In addition, there are further, more suitable habitats present locally. The site does not form a connective pathway or stepping stone between areas of suitable reptile habitat in the wider landscape and the development is unlikely to lead to reptile habitat fragmentation. The proposed works could result in the death or injury of reptiles, if present at time of works.
<i>Recommendations</i>	Due to the small size of the proposed works, a precautionary working method is recommended to be implemented for widespread reptiles during construction, including the following measures: • Vegetation must be maintained at a short sward (5cm) to discourage reptiles for the duration of works periods. • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • Best practice pollution prevention measures will be implemented to minimise impacts to nearby habitats. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. • If any reptiles are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance. • In the unlikely event that a reptile is identified, works must cease and advice must be sought from a suitably qualified ecologist.

Amphibians			
Summary of Survey Findings	EPSL and survey data		
	A review of the MAGIC database returned one EPSL record for great crested newts (GCN) within 2km of the site.		
	License reference	Applicable dates	Distance from site
			Impacts allowed by licence
	EPSM2011-3490	19/09/2012 - 01/07/2016	1.84km southeast
			Destruction of a resting place
	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).		
	As listed on the MAGIC database, there are no ponds within 500m of the site boundaries. However, the Netherfield Spring is located approximately 0.43km south of the site. The spring contains running water and is unlikely to provide suitable aquatic habitat for newts.		
	Terrestrial habitat suitability		
	The site provides suitable terrestrial habitat for amphibians in the form of arrhenatherum grassland and tall forbs comprising nettles. These habitats are noted to provide commuting and refuge opportunities for amphibians due to the sward height providing excellent vegetative coverage. It is worth noting that the site is not connected to any local hedgerow networks; the surrounding land comprises arable fields and uncurbed roads. While these do not present as obstructions to amphibian movement, the lack of significant vegetated routes (i.e., hedgerows) from the site to the local landscape may suggest suboptimal commuting routes for amphibians throughout the site.		
Foreseen Impacts	Given the lack of suitably connected breeding ponds within 500m of the site, the presence of GCN on-site is considered unlikely and therefore impacts to amphibians as a result of the proposed development are deemed to be acceptably low.		

<i>Recommendations</i>	Owing to the nature of the proposed development and the low potential for impacts to great crested newts, further surveys are considered to be disproportionate. A precautionary working method will be implemented for common amphibians during construction, including the following measures: • A staged approach will be adopted for vegetation clearance, whereby the vegetation throughout the site where works are scheduled to occur 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 nearby to the working area. • 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 advice must be sought from a suitably qualified ecologist.
Badger	
<i>Summary of Survey Findings</i>	No badger setts were noted on site or within a 30m radius of the site. Further, no evidence of badgers (i.e., foraging holes, latrines, etc) was noted within the development area. However, the site was considered suitable for badger sett excavation and foraging habitat.
<i>Foreseen Impacts</i>	No works will be undertaken within 30m of a badger sett. Areas of tall forbs, bramble scrub, and bare and sparsely vegetated land will be lost due to the proposed plans. The loss of such habitat is likely to be inconsequential to local badger populations owing to the presence of more extensive habitat locally. However, construction activities could result in the death or injury of badgers, if present.
<i>Recommendations</i>	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: • 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. New fencing must contain gaps suitable for badgers to pass through (30cm wide and 20cm tall), which gaps positions every 10m, to permit passage through the site and avoid habitat fragmentation. In the unlikely event that a badger sett is identified, works must cease and advice must be sought from a suitably qualified ecologist.
Riparian animals	
<i>Summary of Survey Findings</i>	A review of the MAGIC database returned no granted EPSL records for other mammals 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.
<i>Foreseen Impacts</i>	None.
<i>Recommendations</i>	None required.
Hazel dormouse	
<i>Summary of Survey Findings</i>	EPSL data A review of the MAGIC database returned no granted EPSL records for hazel dormice within 2km of the site. Habitat suitability The site lies within an area which has recorded presence of hazel dormice (PTES, 2025). Dormice typically utilise a three-dimensional habitat structure as to commute between feeding and breeding sites whilst avoiding predation. While pockets of bramble scrub are present on site, these are not suitably connected across the site nor to further suitable off-site habitats and as such the likelihood of this species being present on site is considered acceptably low. In addition, there are no nearby local hedgerow networks within an influencing distance to the site.
<i>Foreseen Impacts</i>	No impacts are anticipated on hazel dormice as a result of the proposed development.
<i>Recommendations</i>	None required.
Other mammals e.g. hedgehog	

<i>Summary of Survey Findings</i>	One roe deer <i>Capreolus capreolus</i> was observed on site. Evidence of rabbits was found within the banks to the northwest of B1 in the form of shallow exploratory burrow holes and droppings. The site provides excellent foraging and commuting opportunities for hedgehogs and mammals in the form of the arrhenatherum grassland, tall forbs, bramble scrub, and sparsely vegetated and bare ground. The surrounding woodlands and further arable fields likely increases suitability of foraging and commuting mammals within the vicinity. The site is accessible on all boundaries for terrestrial mammals.
<i>Foreseen Impacts</i>	The proposed works will involve the clearance of areas of tall forbs, bramble, and sparsely vegetated and bare ground. As further suitable habitats are present locally this is likely to be inconsequential to local hedgehog and other mammal populations. However, construction activities could result in the death or injury of mammals, if present.
<i>Recommendations</i>	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. Other mammals (i.e., fox and deer) should be left to disperse of their own accord. Do not handle any large mammals. Suggested biodiversity enhancements The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for hedgehogs and other mammals: • Plant species-rich native grassland at verge areas to increase foraging and sheltering opportunities. • Retain arrhenatherum grassland, trees, and bramble as intact insofar as possible • Creation of brash piles or installation of hedgehog houses in shady areas, where possible. • Gaps installed for badgers will permit hedgehog and other mammal passage through the site.

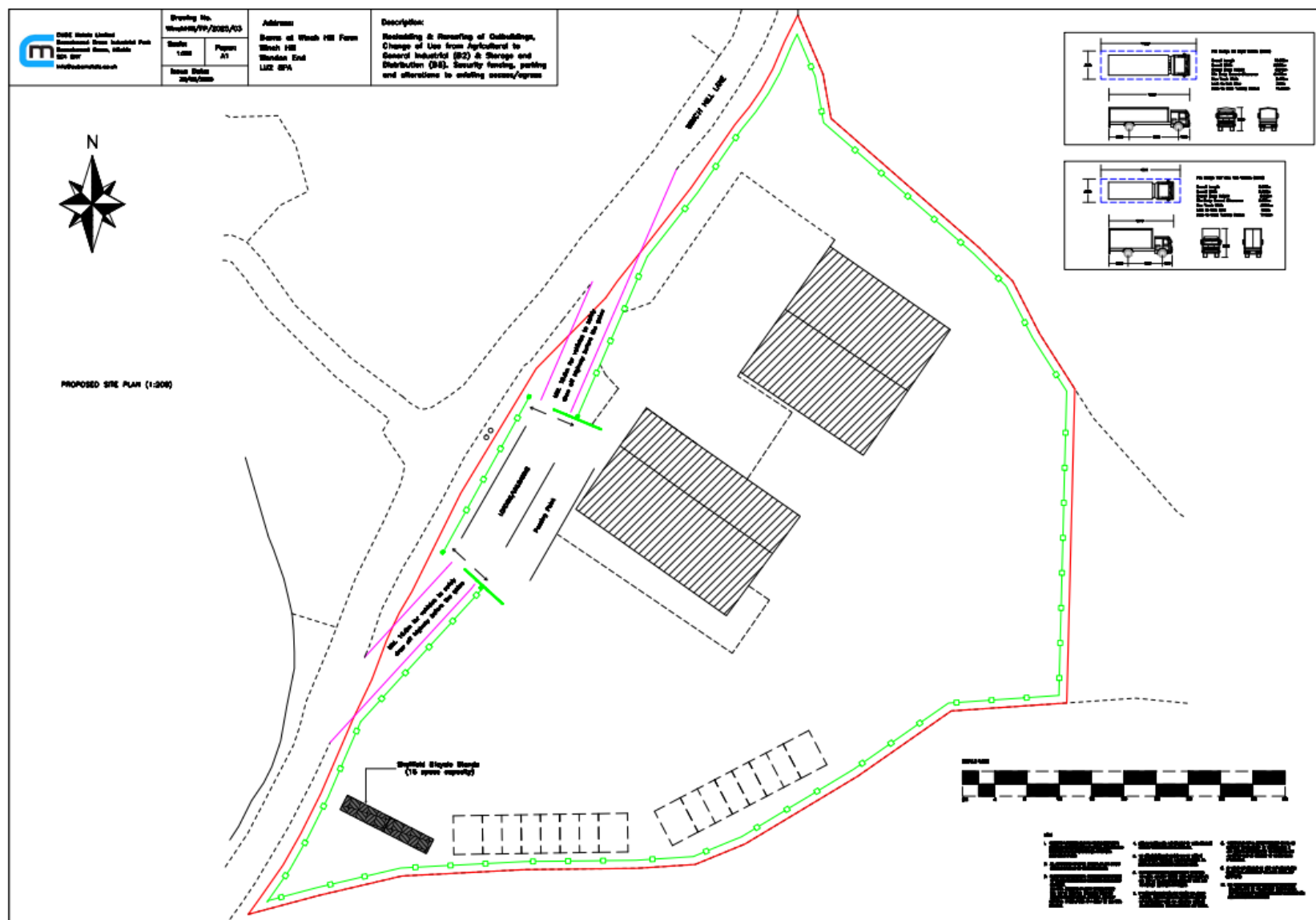
Appendix 1: Survey/Habitat map



Appendix 2: Location map



Appendix 3: Proposed plans



Appendix 4: Tree condition sheets: individual trees and line of trees

Condition Sheet: INDIVIDUAL TREES Habitat Type			Condition Assessment Criteria		Criterion passed (Yes or No)
A	The tree is a native species (or at least 70% within the block are native species).		A	At least 70% of trees are native species.	
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).		B	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	
C	The tree is mature (or more than 50% within the block are mature) ¹ .		C	One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and attached deadwood, cavities, ivy or loose bark.	
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.		D	There is an undisturbed naturally-vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing). Where veteran trees are present, root protection areas should follow standing advice ² .	
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.		E	At least 95% of the trees are in a healthy condition (deadwood or veteran features valuable for wildlife are excluded from this). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	
F	More than 20% of the tree canopy area is oversailing vegetation beneath.		Number of criteria passed		
Number of criteria passed			Condition Assessment Result (out of 5 criteria)	Condition Assessment Score	Score Achieved ×/✓
Condition Assessment Result (out of 6 criteria)	Condition Assessment Score	Score Achieved ×/✓	Passes 5 criteria	Good (3)	
Passes 5 or 6 criteria	Good (3)		Passes 3 or 4 criteria	Moderate (2)	
Passes 3 or 4 criteria	Moderate (2)		Passes 2 or fewer criteria	Poor (1)	
Passes 2 or fewer criteria	Poor (1)				

Appendix 5: Additional photos



1 Bare ground at the site access, facing west



2 Hardstanding between B1 and B2 with ruderals on both sides; vegetated earth bank at right



3 Sparsely vegetated artificial unsealed surfacing with ruderals on both sides, facing north. B1 at right



4 Arrhenatherum grassland to the north of B1 at the site border, facing east



5 *Arrhenatherum* grassland at the east, facing west



6 Line of trees



7 Tall forbs, B2, facing west



8 Bramble scrub west of B2; T1 at centre



9 B1 interior



10 B1 interior



11 B2 interior



12 Open access of B2 along northern elevation



13 *Shallow dug rabbit hole*



14 *Rabbit droppings*



15 Individual trees, from left to right: T01, T02, T03, T04, T05

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