



**Barn at High Beech Farm, Horsham,
West Sussex RH13 6PE**

**Ecological Impact Assessment
& Biodiversity Net Gain Assessment**

March 2026

on behalf of Paul Dackombe

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Client	Mr Dackombe <i>care of</i> Anchor Design Ltd
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Report Contents

1	Executive Summary	1
2	Introduction	2
2.1	Site Description	2
2.2	Proposed Works	2
2.3	Aims of Study	2
2.4	Biodiversity Statement	2
2.4.1	Exemptions	2
2.4.2	Pre-development Biodiversity Value of On-site Habitats	3
2.4.3	Loss of On-site Habitats	3
2.4.4	Phased Development	3
2.4.5	Irreplaceable Habitats	3
2.4.6	Date the On-site Pre-development Biodiversity Value was Calculated	3
2.4.7	Version of the Biodiversity Metric	3
2.4.8	Version of the Biodiversity Metric Publication Date	3
2.4.9	Supporting Documentation	3
3	Methodology	4
3.1	Desk Study	4
3.2	Field Surveys	4
3.2.1	Personnel & Credentials	4
3.2.2	UK Habitat Classification (UKHab) Survey	5
3.2.3	Habitat Condition Assessment	6
3.2.4	Daytime Bat Walkover & Preliminary Roost Assessment	6
3.2.5	Badger Survey	9
3.2.6	Weather Conditions	9
3.3	Limitations on Survey Data	9
3.4	Ecological Impact Assessment	9
3.4.1	Determining Important Ecological Features & Value	10
3.4.2	Characterising Ecological Impacts	10
3.4.3	Determining Ecologically Significant Effects	11
3.5	Biodiversity Net Gain Assessment	11
4	Results & Evaluation	12
4.1	Desk Study	12
4.1.1	Sites of Nature Conservation Importance	12
4.1.2	Species Records	12
4.2	Habitats	13
4.2.1	Overview	14
4.2.2	Modified Grassland – g4, 100	14
4.2.3	Developed Land; Sealed Surface (Buildings) – u1b5	14
4.2.4	Individual Trees – g, 200	15
4.3	Species	16
4.3.1	Plants	16
4.3.2	Invertebrates	16
4.3.3	Amphibians	16
4.3.4	Reptiles	17
4.3.5	Birds	17
4.3.6	Bats	17
4.3.7	Other Mammals	18
4.3.8	Other Species	18
5	Discussion	18

5.1	Relevant Legislative & Policy Guidance	18
5.1.1	Nesting Birds.....	18
5.1.2	The Natural Environment & Rural Communities Act 2006.....	18
5.1.3	National Planning Policy Framework (NPPF)	18
5.1.4	Environment Act 2021	20
5.2	Potential Impacts	20
5.2.1	Sites of Nature Conservation Importance	20
5.2.2	Habitats	20
5.2.3	Species	21
6	Biodiversity Net Gain Assessment.....	22
6.1	Habitat Status Before Development	22
6.1.1	Habitat Condition Assessment	22
6.1.2	Habitat Strategic Significance.....	23
6.2	Habitat Status After Development	23
6.2.1	Developed Land; Sealed Surface.....	23
6.2.2	Artificial Unvegetated, Unsealed Surface.....	23
6.2.3	Newly Planted Trees.....	23
6.3	Biodiversity Metric Calculation Summary	24
7	Recommendations.....	24
7.1	Further Surveys	24
7.2	Habitats	24
7.2.1	Protection of Existing Habitats.....	24
7.3	Species	24
7.3.1	Nesting Birds.....	24
7.3.2	Bats	25
7.3.3	Hedgehogs.....	26
7.3.4	Other Species	26
8	References.....	27
9	Appendix 1. Photographs	28
10	Appendix 2. Site Location Plans	30
11	Appendix 3. Proposal Plan	31
12	Appendix 4. Baseline UKHab Habitat Plan	32
13	Appendix 5. Proposed Habitat Plan.....	33
14	Appendix 6. Habitat Change Plan	34
15	Appendix 7. Habitat Condition Assessment Sheets.....	35
16	Appendix 8. Statutory Biodiversity Metric	35

1 Executive Summary

Site Details	The Barn at High Beech Farm is an agricultural building within a field of modified grassland located to the east of High Beech Farm and to the north of Hammer Pond Road to the south-east of Horsham in West Sussex RH13 6PE. The approximate Ordnance Survey grid reference for the site is TQ 2321 2885.
Proposals	The proposals are for the demolition of the existing barn and construction of a new barn to the west of the original building. The proposals include the construction of a gravel access driveway and planting of new trees. This will include the retention of existing rural trees.
Methodology	An UKHab Habitat Survey, Daytime Bat Walkover and Preliminary Roost Assessment and Badger Survey were undertaken on the 4th March 2026. A Biodiversity Impact Assessment was conducted to calculate the potential impact of the proposed development (using the Statutory Biodiversity Metric), and to assess biodiversity net gain.
Evaluation	- The site is comprised of grazed modified grassland, developed land; sealed surface and two individual trees. - All habitats are of negligible ecological value or of value at the site level only. - No invasive species were observed within the site.
Potential Impacts	- The proposals will result in the loss of modified grassland. - New external lighting within the site has the potential to adversely affect bat behaviour. The result of the BNG Metric calculation predicts a net gain in biodiversity for habitat units. Total net unit change in habitats: +0.09 Habitat Units Total net % change in habitats: +10.45% Habitat Units
Recommendations	Recommendations are made with regard to the protection of retained trees. Recommendations are made with regard to removal of vegetation and demolition of the Barn which should take place outside of the breeding bird period.

2 Introduction

2.1 Site Description

The Barn at High Beech Farm, referred to as the 'site' within this report, is an agricultural building comprising three sections located within a field of modified grassland to the east of High Beech Farm and to the north of Hammer Pond Road, south-east of Horsham in West Sussex RH13 6PE. The approximate Ordnance Survey grid reference for the site is TQ 2321 2885.

The site comprises a grazed field of modified grassland and an agricultural building (developed land; sealed surface). There are also a number of brash piles and two rural trees.

Habitats within the wider landscape are characterised by grassland habitats and scattered dwellings. To the north of the site is Hammerhill Wood, an area of ancient woodland through which a stream flows. To the west is Hammer Pond. To the north-west is the town of Horsham, characterised by residential and urban development.

Please refer to Appendix 1 for photographs and Appendix 2 for site location plans.

2.2 Proposed Works

The proposals are for the demolition of the existing barn and construction of a new barn to the west of the original building. The proposals also include the construction of a gravel access driveway and planting of new trees. The existing rural trees will be retained.

A proposal plan is presented in Appendix 3.

2.3 Aims of Study

The aims of this study are to survey the site for protected species and assess the overall potential of the site to support protected or notable species. The report discusses the potential impacts of the proposed works on habitats and protected or notable species (Ecological Impact Assessment). The report makes recommendations for appropriate mitigation, compensation and enhancement measures.

A further aim of this study is to assess and quantify the biodiversity value of the site and to assess and calculate the impacts of the proposed development on the site's biodiversity value, given as a net loss, no net change or gain in biodiversity units, in line with the National Planning Policy Framework (NPPF) and Environment Act 2021.

This report aims to:

- Establish the total number of baseline biodiversity units for the site prior to the development taking place;
- Establish the total number of biodiversity units which will be created, retained and/or enhanced under landscape and ecological mitigation proposals for the site of; and
- Determine whether the proposed development scheme will result in a net loss, no net loss or a net gain for biodiversity (Biodiversity Net Gain Assessment).

2.4 Biodiversity Statement

2.4.1 Exemptions

The proposals are not exempt from the Biodiversity Net Gain (BNG) condition. The proposals will therefore need to deliver at least +10% Biodiversity Net Gain.

2.4.2 *Pre-development Biodiversity Value of On-site Habitats*

The pre-development biodiversity value of the site is as follows:

- 0.89 Habitat Units

Hedgerow and Watercourse Units are not considered to be relevant.

2.4.3 *Loss of On-site Habitats*

There has been no loss of on-site habitats prior to the submission of the planning application.

Does the pre-development biodiversity value and date used above factor in the loss of any onsite habitat because of activities carried out before the submission of this application? – not applicable.

2.4.4 *Phased Development*

The development is not phased.

2.4.5 *Irreplaceable Habitats*

There are no irreplaceable habitats within the site.

2.4.6 *Date the On-site Pre-development Biodiversity Value was Calculated*

Date of application.

4th March 2026 was the date of the site visit. This is when the condition assessment for the habitats was undertaken.

2.4.7 *Version of the Biodiversity Metric*

Statutory Biodiversity Metric 1.0.4 (Appendix 8).

2.4.8 *Version of the Biodiversity Metric Publication Date*

3rd July 2025.

2.4.9 *Supporting Documentation*

- I. Biodiversity Metric calculation – provided in Excel format as Appendix 8 to this report. Results as follows:

The result of the calculation predicts a **net gain** in biodiversity for habitat units.

Total net unit change in habitats: +0.09 Habitat Units

Total net % change in habitats: +10.45% Habitat Units

The Trading Rules are **satisfied**.

Based on current proposal plans, achieving biodiversity net gain within the site is considered possible.

- II. Onsite irreplaceable habitats – not applicable
- III. Onsite habitats existing on the date of the application for planning permission

Table 1. UKHab habitats existing on the date of the application for planning permission.

Primary Code	Secondary Codes	Description
g4	100	Grassland; Modified grassland (grazed)
u1b5	-	Urban; Developed land; sealed surface (buildings)
g	200	Grassland; Individual trees (rural trees)

3 Methodology

3.1 Desk Study

The Sussex Biodiversity Records Centre (SBRC) was contacted in March 2026 to gather records that it holds for protected and notable species, and non-statutory sites of nature conservation importance from within a 1km radius of the site.

The Multi-Agency Geographic Information for the Countryside (www.magic.gov.uk) website was searched for information regarding internationally protected sites (e.g. Special Areas of Conservation) within 5km of the survey area and statutory sites of nature conservation importance (e.g. Sites of Special Scientific Interest) within a 1km radius of the site. Other Internet resources interrogated as part of the desk study include:

- Google Earth - www.earth.google.co.uk
- Google maps - www.google.co.uk/maps

Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 was also consulted to gather information pertaining to priority habitats and species for conservation action at the national and local level.

Aerial photography interpretation is used to place the site into an ecological context and to provide information on the nature of the habitats beyond the site boundary. The information gathered is used to provide a baseline to the habitat assessment.

3.2 Field Surveys

3.2.1 Personnel & Credentials

The field surveys were undertaken by Reuben Hayden *MSc ACIEEM* and Claire Herlihy *MSc* on 4th March 2026.

Reuben Hayden *MSc ACIEEM* is a Senior Ecologist at Windrush Ecology Ltd. Mr Hayden has an undergraduate degree in Wildlife Ecology & Conservation Science from the University of West of England and a master's degree in Species Identification & Survey Skills from the University of Reading and has been working as a professional ecological consultant since 2019.

Mr Hayden holds licences from Natural England to survey for bats and great crested newts within all counties of England (Level 2 2025-84936-SCI-CL18 & CL08-Level 1 2021-54013-CLS-CLS) and has over 6 years of experience in undertaking bat surveys.

Claire Herlihy *MSc* is an Assistant Ecologist at Windrush Ecology Ltd. Ms Herlihy has an undergraduate degree in Human Biology from the University of Birmingham and a master's degree in Nature Conservation from the Czech University of Life Sciences and has been working as a professional ecological consultant since 2025.

Ms Herlihy works as an Accredited Agent under bat survey licences that are held by Reuben Hayden MSc ACIEEM England (Level 2 2025-84936-SCI-CL18 & CL08-Level 1 2021-54013-CLS-CLS).

3.2.2 UK Habitat Classification (UKHab) Survey

An Extended UKHab Habitat Survey was undertaken to determine the type and overall status of habitats within the site. The field survey technique used is detailed in the UK Habitat Classification User Manual (Butcher, Carey, Edmonds, Norton, & Treweek, UK Habitat Classification Manual Version 1.1, 2020).

Where possible, prior to carrying out the field survey, on-site habitats were identified using MAGIC website and Google Earth Pro satellite imagery. These sources were reviewed to identify an appropriate spatial resolution for habitat mapping, as the UKHab system has been designed to function at two scales: fine scale (25m² and 5m length) and large scale (400m² and 20m length). If a project requires the detailed mapping of small features and where habitats could be very fine grained, it is recommended that surveyors use the fine-scale MMU which is 25m² and 5m in length. Therefore, for the purposes of this survey it is considered that the fine-scale minimum mapping unit (MMU) is appropriate.

The MAGIC website and Google Earth Pro satellite imagery were also used to determine whether there are known or possible locations for rare and/or habitats of high nature conservation importance.

The UKHab system comprises a five-level Primary Habitat Hierarchy and a list of Secondary Codes, the latter is divided into Essential codes and Additional Codes. It is mandatory that each recorded habitat parcel (which can be a point, line or polygon using geospatial vector data terminology) is allocated a single Primary Habitat Code and to record the presence of all Essential Secondary Code features associated with that habitat parcel. Additional Secondary Codes can also be associated with habitat parcels, where it is relevant to the whole parcel. The UKHab system recommends that up to six Secondary Codes can be allocated to a single habitat parcel.

The UKHab system includes all habitat types identified in the UK, irrespective of scale and geographic range, including all habitats listed under Section 41 of the NERC Act 2006 and all Habitats Directive Annex 1 habitats recorded in the UK. Where possible, synonyms for UKHab habitats in other major habitat classifications are provided in the definitions.

The UK Habitat Classification Version 2.0 has been used (UKHab Ltd, 2023), with the use of Level 3 to 5 Primary Habitats and Secondary Codes. Primary Habitats and Secondary Codes follow the UKHab definitions listed in the aforementioned document. The Secondary Codes selected are appropriate to the site and habitats recorded.

Target notes were also prepared on features of particular ecological interest, and an assessment was made of the site's potential to support protected and notable species (such as species listed under Section 41 of the NERC Act 2006) as well as invasive species (listed on Schedule 9 of the Wildlife & Countryside Act 1981).

Quadrat sampling across the grassland was also used in accordance with UKHab survey guidance. Standard 1 m × 1 m quadrats were placed at random locations within the habitat, avoiding edges and atypical features. All vascular plant species rooted within each quadrat were identified and recorded, and the total number of species per quadrat was used to determine species richness. Results from multiple quadrats were combined to provide an overall assessment of grassland diversity.

3.2.2.1 Summarised UKHab Metadata

In line with the UKHab User Manual Table 2 details the Survey Metadata associated with the UKHab survey.

Table 2. Survey Metadata associated with the UKHab survey.

Metadata Heading	Site Information
Scope and purpose of the survey	Baseline habitat survey to inform EclA and BNG Assessment
Area surveyed	0.38ha
Edition of UKHab used	Version 2.0
The Level of UKHab Primary Hierarchy used	Levels 3 to 5
Additional attributes recorded	Habitat condition and habitat management information where relevant
Map projection and units	Ordnance Survey National Grid reference system (OSGB)
Year of survey	2026
Organisation and individual undertaking the survey	Windrush Ecology Ltd, Reuben Hayden MSc ACIEEM and Claire Herlihy MSc.
References for any existing datasets that have been used	Sussex Biodiversity Records Centre (SBRC) search and the MAGIC website

3.2.3 Habitat Condition Assessment

A Habitat Condition Assessment was also undertaken.

3.2.4 Daytime Bat Walkover & Preliminary Roost Assessment

A Daytime Bat Walkover (DBW) and Preliminary Roost Assessment (PRA) of the buildings and trees within the site were also undertaken.

A detailed external and internal survey of the buildings was undertaken using a 1 million candle-power torch and close-focusing binoculars in order to look for bats and/or evidence of bats and to assess the potential of the building to support roosting bats.

The internal spaces and exterior elevations of the buildings were inspected for evidence of bats including, bat droppings, urine stains, feeding remains (such as moth wings) and characteristic fur straining around access points.

Notes were made on the relative freshness, shape and size of bat droppings and the location and quantity of any feeding remains. 'Clean' gaps and crevices within the structure of the buildings were looked for as this can indicate where bats may have gained access to the interior spaces and the fabric of the walls. The bat survey was undertaken according to best practice guidelines published by the Bat Conservation Trust (Collins, 2023).

The study also takes into account the structure and ecological context of the buildings, including the following factors which may increase the likelihood of roosting bats being present:

- Age of the building (pre-20th Century or early 20th Century construction)
- Nature of construction; traditional brick, stone or timber construction
- Large and complicated roof void with unobstructed flying spaces
- Large (>20 cm) roof timbers with mortice/tenon joints, cracks and holes
- Entrances and gaps for bats to fly and crawl through
- Poorly maintained fabric providing ready access points for bats into roofs, walls; but at the same time not being too draughty and cool.
- Roof warmed by the sun, south-facing roofs in particular
- Weatherboarding and/or hanging tiles with gaps
- Undisturbed roof voids
- Buildings and built structures in proximity to each other providing a variety of roosting opportunities throughout the year
- Buildings or built structures close to good foraging habitat, in particular mature trees, parkland, woodland or wetland, especially in a rural setting

The following criteria are used for as guidelines for assessing the potential suitability of buildings for bats (Collins, 2023):

Table 3. Criteria for the assessment of buildings for roosting bats (Collins, 2023).

Potential Suitability	Description of Roosting Habitats in Structures
None	No habitat features on site likely to be used by any roosting bats at any time of the year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels).
Negligible ^a	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions ^b and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity and not a classic cool/stable hibernation site, but could be used by individual hibernating bats ^c).
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after the presence is confirmed).
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitats. These structures have the potential to support high conservation status roosts, e.g. maternity or classic cool/stable hibernation site.
^a Negligible is defined as ‘so small or unimportant as to be not worth considering, insignificant’. This category may be used where there are places that a bat could roost or forage (due to one attribute), but it is unlikely that they actually would (due to another attribute).	

Potential Suitability	Description of Roosting Habitats in Structures
^b For example, in terms of temperature, humidity, height above ground level, light levels or level of disturbance. ^c Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten <i>et al.</i>, 2016 and Jansen <i>et al.</i>, 2022). Common pipistrelle swarming has been observed in the UK (Bell, 2022 and Tomlinson, 2020) and winter hibernation of numbers of this species has been detected at Seaton Delaval Hall in Northumberland (National Trust, 2018). This phenomenon requires some research in the UK, but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in prominent buildings in the landscape, urban or otherwise.	

Confirmed presence of roosting bats is where evidence indicates that a building or other structure is used by bats, this includes:

- bats seen roosting or observed flying from a roost or freely in the habitat;
- droppings, carcasses, feeding remains etc. found and/or
- bats heard 'chattering' inside a roost on a warm day or at dusk.

Where the possibility that bats are present cannot be eliminated or evidence of bats is found during the building inspection survey, then further surveys (such as winter hibernation, presence/absence and/or roost characterisation) are likely to be necessary if impacts on the roosting habitat (or the bats using it) are predicted.

Trees within the site were also assessed for their potential to shelter roosting bats following Good Practice Guidelines (Collins, 2023). The survey was undertaken from ground level, with trees inspected for potential roost features, using binoculars as necessary.

Potential roost features (PRFs) that may be used by bats include (Collins, 2023):

PRFs Formed by Disease and Decay	PRFs Formed by Damage	PRFs Formed by Association
• Woodpecker holes • Squirrel holes • Knot holes • Pruning cuts • Tear outs • Wounds • Cankers • Compression forks • Butt rots	• Lightning strikes • Hazard beams • Subsidence cracks • Shearing cracks • Transverse snaps • Welds • Lifting bark • Desiccation • Fissures • Frost cracks	• Fluting • Ivy

The following criteria are used as guidelines for assessing the potential suitability of trees for bats (Collins, 2023):

Suitability	Description of Roosting Habitats
NONE	Either no PRFs in the tree or highly unlikely to be any.
FAR	Further assessment required to establish if PRFs are present in the tree.
PRF	A tree with at least one PRF present.

Suitability	Description of Roosting Habitats
	The definition of PRF types is below: PRF-I: PRF is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats. PRF-M: PRF is suitable for multiple bats and may therefore be used by a maternity colony.

Where the possibility that bats are present cannot be eliminated or evidence of bats is found during the PRA survey, then further surveys (such as PRF aerial inspection, winter hibernation, presence/absence and/or roost characterisation) are likely to be necessary if impacts on the roosting habitat (or the bats using it) are predicted.

In addition to the bat survey, the buildings and trees were checked for evidence of nesting birds including old birds' nests, bird droppings, feathers and eggs.

3.2.5 Badger Survey

The site was also surveyed for evidence of badger activity in accordance with standard methodology (Harris, Creswell & Jeffries, 1989).

The survey involved a walkover of the site to look for badger setts and evidence of badger activity including trackways, footprints, latrines/dung pits, badger hairs and foraging scrapes (snuffle holes).

3.2.6 Weather Conditions

The weather on the day was bright and warm (10°C) and cloudless (0% cloud cover) with light air (Beaufort Scale 2).

3.3 Limitations on Survey Data

All areas of the site were accessible and surveyed thoroughly and safely. There are considered to be no significant limitations on the survey data. Although the survey was undertaken during the winter and in rainy conditions, sufficient vegetation remained visible and identifiable at the time of survey to allow accurate habitat classification and assessment.

As with any survey undertaken on a certain date, the data presented within this report provide information at particular points in time and present a 'snap-shot' of the ecological status of the site. Ecosystems and species behaviour/activity are dynamic and can change over time.

Whilst this report presents a characterisation and evaluation of habitat and species status at the time of the study, it should not be taken as an exhaustive representation of the ecological status of the site either at present or into the future.

3.4 Ecological Impact Assessment

The ecological appraisal of the proposed development is undertaken in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* version 1.3 (CIEEM, 2018).

The following principles underpin Ecological Impact Assessments EclA:

- **Avoidance:** seek options that avoid harm to ecological features (for example, by locating on an alternative site).

- Mitigation: negative effects should be avoided or minimised through mitigation measures, either through the design of the project or subsequent measures that can be guaranteed – for example, through a condition or planning obligation.
- Compensation: where there are significant residual negative ecological effects despite the mitigation proposed, these should be offset by appropriate compensatory measures.
- Enhancement: seek to provide net benefits for biodiversity over and above requirements for avoidance, mitigation or compensation.

3.4.1 *Determining Important Ecological Features & Value*

The CIEEM guidelines recognise one of the key challenges in (EcIA) is to decide which ecological features (habitats, species, ecosystem and their functions/processes) are important and should be subject to detailed assessment. Such ecological features are those that are considered to be important and potentially affected by the project. It is not necessary to carry out detailed assessment of features that are sufficiently widespread, unthreatened and resilient to project impacts and will remain viable and sustainable.

However, efforts should still be made to safeguard biodiversity in its entirety, as emphasised by the Convention on Biological Diversity and developed in the EU Biodiversity Strategy 2020. The EU Strategy and national policy documents emphasise the need to achieve no net loss of biodiversity and enhancement of biodiversity.

The EcIA should demonstrate how a proposal will comply with statutory requirements and policy objectives for biodiversity.

The importance of an ecological feature should be considered within a defined geographical context. In this report, habitats are assigned to a value relating to their geographic frame of reference, using the following scale:

- International
- UK
- National (England)
- Regional (South-East)
- County (West Sussex)
- District (Horsham)
- Local or parish (Lower Beeding)
- Immediate zone of influence of the site (Site)
- Negligible

Regarding protected and notable species, an assessment of habitat suitability and potential presence of species has been undertaken given the results of the desk study and field surveys.

3.4.2 *Characterising Ecological Impacts*

When describing ecological impacts and effects, reference should be made to the following characteristics as required:

- Positive or negative
- Extent
- Magnitude
- Duration
- Frequency and timing
- Reversibility

The assessment only needs to describe those characteristics relevant to understanding the ecological effect of the impacts and determining its significance.

3.4.3 *Determining Ecologically Significant Effects*

The CIEEM guidelines define an 'ecologically significant effect' as an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. Significant effects should be qualified with reference to an appropriate geographic scale. However, the scale of significance of an effect may not be the same as the geographic context in which the feature is considered important.

Significant effects encompass impacts on structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species (including extent, abundance and distribution). A significant effect is sufficiently important to require assessment and reporting so that the decision maker is adequately informed of the environmental consequences of permitting a project.

Regarding protected and notable species, an assessment of habitat suitability and potential presence of species has been undertaken given the results of the desk study and field surveys.

3.5 Biodiversity Net Gain Assessment

A Biodiversity Net Gain assessment was conducted using the Statutory Biodiversity Metric, published by Department for Environment, Food & Rural Affairs (July, 2025), to calculate the impact of the proposed development on the ecological value of the site. The calculation ascertains whether the proposals are likely to achieve a net gain in biodiversity, calculated as biodiversity (habitat, hedgerow and watercourse) units and percentage biodiversity (habitat, hedgerow and watercourse) units.

To effectively assess the impact of the proposals the habitats within the site were classified according to the habitat types given in the UKHab classification system (UKHab Ltd, 2023). Habitats were assessed for their condition and strategic significance according to the criteria given within the Statutory Biodiversity Metric User Guide and The Statutory Biodiversity Metric – Technical Annex 1: Condition Assessment Sheets and Methodology (Version 1.0.4) (Department for Environment, Food & Rural Affairs, 2024) through onsite visits and the interrogation of internet resources including MAGIC (www.magic.gov.uk) and Google Earth (www.earth.google.co.uk).

The areas of given habitats in both their current state and the proposed development were mapped using on site data, satellite imagery and QGIS software, with the resulting areas inputted into the Statutory Biodiversity Metric alongside strategic significance classifiers.

A site visit was undertaken by a suitably qualified ecologist to determine the habitats present on site, their location, size, condition and connectivity.

The principles of biodiversity net gain as set out in the Biodiversity Net Gain Good Practice Guidelines (CIEEM, IEMA & CIRIA, 2019) have been considered throughout this process as listed below:

- **Principle 1.** Apply the Mitigation Hierarchy
- **Principle 2.** Avoid losing biodiversity that cannot be offset by gains elsewhere
- **Principle 3.** Be inclusive and equitable
- **Principle 4.** Address risks
- **Principle 5.** Make a measurable Net Gain contribution
- **Principle 6.** Achieve the best outcomes for biodiversity
- **Principle 7.** Be additional
- **Principle 8.** Create a Net Gain legacy

- **Principle 9.** Optimise sustainability
- **Principle 10.** Be transparent

4 Results & Evaluation

4.1 Desk Study

4.1.1 Sites of Nature Conservation Importance

4.1.1.1 Statutory Sites

There are no internationally designated sites of nature conservation importance, such as Special Areas of Conservation (SAC), within a 5km radius of the site. The closest such site is the Ashdown Forest SAC which is located approximately 16.9km to the east.

There are no nationally designated sites of nature conservation importance, such as Sites of Special Scientific Interest (SSSI), within a 1km radius of the site. The closest is St Leonard's Forest SSSI which is located approximately 1.3km to the north-west of the site.

The site is located within the SSSI Impact Risk Zone which includes the following categories:

- **Infrastructure:** Pipelines and underground cables, pylons and overhead cables (excluding upgrades and refurbishment of existing network). Any transport proposal including new or extended footways, cycleways, roads/car parks, railways and waterways (excluding routine maintenance). Airports, helipads and other aviation proposals.
- **Minerals, Oil and Gas:** Planning applications for quarries, including: new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions etc. Oil & gas exploration/extraction.
- **Air Pollution:** Any industrial/agricultural development that could cause AIR POLLUTION (including: industrial processes, livestock & poultry units with a floorspace > 500m², slurry lagoons > 200m² & manure stores > 250 tonnes).
- **Combustion:** General combustion processes >20MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/combustion.
- **Waste:** Landfill. Including: inert landfill, non-hazardous landfill, hazardous landfill.
- **Compost:** Any composting proposal with more than 75000 tonnes maximum annual operational throughput. Incl: open windrow composting, in-vessel composting, anaerobic digestion, other waste management.
- **Water Supply:** Large infrastructure such as warehousing/industry where the total net additional gross internal floorspace following development is 1,000m² or more.

4.1.1.2 Non-statutory Sites

There are no non-statutory sites of nature conservation importance within the 1km radius of the site.

4.1.2 Species Records

The following sections discuss species records that are considered to be relevant, or potentially relevant to the site, given the nature of the habitats that are present within the site and the immediate surrounding area.

4.1.2.1 Plants

Plant species recorded include grassland and woodland species. Records considered pertinent to the site include royal fern *Osmunda regalis*, stinking chamomile *Anthemis cotula*, quaking-grass *Briza media*, common eyebright *Euphrasia officinalis*, wild strawberry *Fragaria vesca*, aggregate-headed

hawkweed *Hieracium aggregatum*, bluebell *Hyacinthoides non-scripta*, bitter-vetch *Lathyrus linifolius*, wood-sorrel *Oxalis acetosella*, tormentil *Potentilla erecta*, sanicle *Sanicula europaea*, ragged robin *Silene flos-cuculi*, goldenrod *Solidago virgaurea*, devil's-bit scabious *Succisa pratensis* and ivy-leaved bellflower *Wahlenbergia hederacea*. These records date from 2004 to 2019.

4.1.2.2 Invertebrates

Invertebrate species records considered pertinent to the site include ladybird fly *Gymnosoma rotundatum* and ground beetle *Bembidion decorum*. These records date from 2002 to 2020.

4.1.2.3 Amphibians

Amphibian species records include smooth newt *Lissotriton vulgaris* and great crested newt *Triturus cristatus*. These records date from 2002 to 2019.

4.1.2.4 Reptiles

The Records Centre holds records of reptile species including slow worm *Anguis fragilis*, grass snake *Natrix helvetica* and common lizard *Zootoca vivipara* from within a 1km radius of the site. These records date from 2002 to 2018.

4.1.2.5 Birds

There are records of birds of prey, farmland and grassland and woodland species within the 1km search radius. There are also records of birds that nest within hedgerows and urban habitats.

Relevant species include swift *Apus apus*, lapwing *Vanellus vanellus*, woodcock *Scolopax rusticola*, cuckoo *Cuculus canorus*, skylark *Alauda arvensis*, woodlark *Lullula arborea*, yellowhammer *Emberiza citrinella*, hawfinch *Coccothraustes coccothraustes*, linnet *Linaria cannabina*, bullfinch *Pyrrhula pyrrhula*, house martin *Delichon urbicum*, swallow *Hirundo rustica*, meadow pipit *Anthus pratensis*, spotted flycatcher *Muscicapa striata*, redstart *Phoenicurus phoenicurus*, marsh tit *Poecile palustris*, house sparrow *Passer domesticus*, willow warbler *Phylloscopus trochilus*, dunnoek *Prunella modularis*, starling *Sturnus vulgaris*, whitethroat *Curruca communis*, song thrush *Turdus philomelos*, mistle thrush *Turdus viscivorus*.

Bird of prey species include kestrel *Falco tinnunculus* and tawny owl *Strix aluco*.

There are records of Schedule 1 bird species within the 1km search radius: hobby *Falco Subbuteo* and red kite *Milvus milvus*.

These records date from 2002 to 2024.

4.1.2.6 Bats

There are records of common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, natterer's bat *Myotis nattereri* noctule *Nyctalus noctula* serotine *Eptesicus serotinus* and brown long-eared bat *Plecotus auritus*. These were recorded between 2000 and 2018.

4.1.2.7 Other Mammals

There is one record of polecat *Mustela putorius* from within the 1km search radius. This record dates from 2024.

4.2 Habitats

Photographs of the site are presented in Appendix 1. Appendix 2 illustrates the location of the site and provides an aerial photograph of the site within the surrounding landscape.

A habitat plan is presented in Appendix 4. The UKHab codes for the habitats within the site are presented within Table 4.

Table 4. UKHab habitat codes for the site; habitat baseline.

Primary Code	Secondary Codes	Description
g4	100	Grassland; Modified grassland (grazed)
u1b5	-	Urban; Developed land; sealed surface (buildings)
g	200	Grassland; Individual trees (rural trees)

4.2.1 Overview

The site includes an agricultural building within a field of grazed modified grassland, two individual rural trees and two brash piles. The field is accessible via High Beech Farm to the north and western boundaries. To the east of the site is neighbouring land and to the south a wooden fence marks the boundary. Within the southern wooden fence is a metal gate which also provide access.

To the east of the site there is a line of trees including holly, elder and oak trees. This feature is within the domestic curtilage of the neighbouring land and is not included within the application red line.

Maps indicate the presence of a pond within the site (on its southern boundary). During the field survey this was determined to be absent, and no pond is present in this location.

4.2.2 Modified Grassland – g4, 100

The site includes a field of grazed modified grassland. The grassland has a sward height between 5-10cm and is dominated by grass species including Yorkshire fog *Holcus lanatus*, cock's-foot *Dactylis glomerata* and false oat-grass *Arrhenatherum elatius*.

Herbaceous species include primrose *Primula vulgaris*, daffodil *Narcissus pseudonarcissus*, lesser celandine *Ficaria verna*, creeping buttercup *Ranunculus repens*, summer snowflake *Leucojum aestivum*, broad leaved dock *Rumex obtusifolius*, common nettle *Urtica dioica*, common sorrel *Rumex acetosa*, soft rush *Juncus effusus*, bluebell *Hyacinthoides non-scripta*, dandelion *Taraxacum officinale*, white clover *Trifolium repens*, ribwort plantain *Plantago lanceolata* and spear thistle *Cirsium vulgare*. There are 5.6 vascular plant species on average per square metre.

Within the grassland there are areas of physical damage including tyre ruts caused by machinery and vehicles.

Modified grassland is considered to be of is of **ecological value at the site level only**.

4.2.3 Developed Land; Sealed Surface (Buildings) – u1b5

The Barn (developed land; sealed surface – buildings) is located in the northern area of the site. The Barn consists of three adjacent structures: the new barn to the west and the old barn to the east. There is also a lean-to section to the north of the new barn. All of these structures are adjoined but do not connect internally.

4.2.3.1 The New Barn

The new barn is a relatively newer building located to the west of the barn structure. The building consists of a timber frame with single layer corrugated metal sheeting forming the roof. The roof does not have any underlay material. The walls are of vertical wooden boarding. The building is accessed through four stable doors along the southern aspect.

No evidence of bats was found in association with the new barn. However, the building is considered to have potential to support nesting birds due to nesting material found within the building.

Seven nests were observed within the building including nest cups. All nests were empty at the time of survey. There is one nest box located on the western aspect of the building.

One old barn owl pellet was found. The Barn is not considered to be suitable for barn owls.

4.2.3.2 The Old Barn

The old barn is a dilapidated wooden framed building with a clay tile roof. There is no underlay associated with the roof. The walls consist of vertical wooden boarding. The building is in a state of disrepair with extensive sagging to the roof. The interior of the building is accessed via a single door along the southern aspect of the building.

No evidence of bats was found in association with the new barn. However, the building is considered to have potential to support nesting birds due to nesting material found within the building.

Two nests were observed within the building.

4.2.3.3 The Lean-To

The lean-to consists of a timber structure and single layer metal framed roof. The lean-to is supported by the northern wall of the new barn and is open on all sides. The structure contains wood stores, building materials and a brash pile considered to be semi-permanent.

No evidence of bats or birds was found in association with the lean-to.

All of the buildings within the Barn structure are assessed as having '**negligible**' roosting potential for bats (Collins, 2023). There are no potential roost features associated with the buildings, and no evidence of bats was found in any of the buildings.

Developed land; sealed surface (other developed land) is of **negligible** ecological value.

4.2.4 Individual Trees – g, 200

There are two individual trees to the north-east of the site, located to the north of the barn. These are both cherry *Prunus* sp. Their precise location is noted on the UKHab baseline habitat map presented in Appendix 4. Since the trees are located within a rural habitat, surrounded by grassland, they are being shown as 'rural' trees. The species and size of the trees within the site are presented in Table 5 below.

Table 5. Species and size of trees within the site.

Common Name	Scientific Name	Size	Number of Trees
Cherry	<i>Prunus</i> sp.	Medium (>30cm but <60cm DBH)	1
Cherry	<i>Prunus</i> sp.	Small (≤30cm DBH)	1

No potential bat roosting features were observed in association with the trees and both trees were assessed as 'NONE' suitability for roosting bats.

The trees are considered to be of ecological value at the **site level** only.

4.3 Species

4.3.1 Plants

No rare or scarce plants were noted within the site. In particular, no rare grassland flowering plants are present within the modified grassland.

4.3.2 Invertebrates

The grassland is likely to support a common and widespread assemblage of invertebrates typical of grassland habitats. The grassland is grazed, making it a poor habitat for invertebrates,

4.3.3 Amphibians

There are no ponds within the site that amphibians could use for breeding.

It is believed that great crested newts can disperse up to 500m from a breeding pond, with the majority of individuals being found within 250m of the pond. Research by Creswell and Whitworth (2004) identified that the majority of great crested newts are found within approximately 50m of a breeding pond, given suitable habitat in close proximity to the pond, and they also found a significant drop-off in capture of great crested newts beyond 100m of a pond.

Maps indicate that there is one pond within a 250m radius of the site, and a further three ponds within a 500m radius (Figure 1).

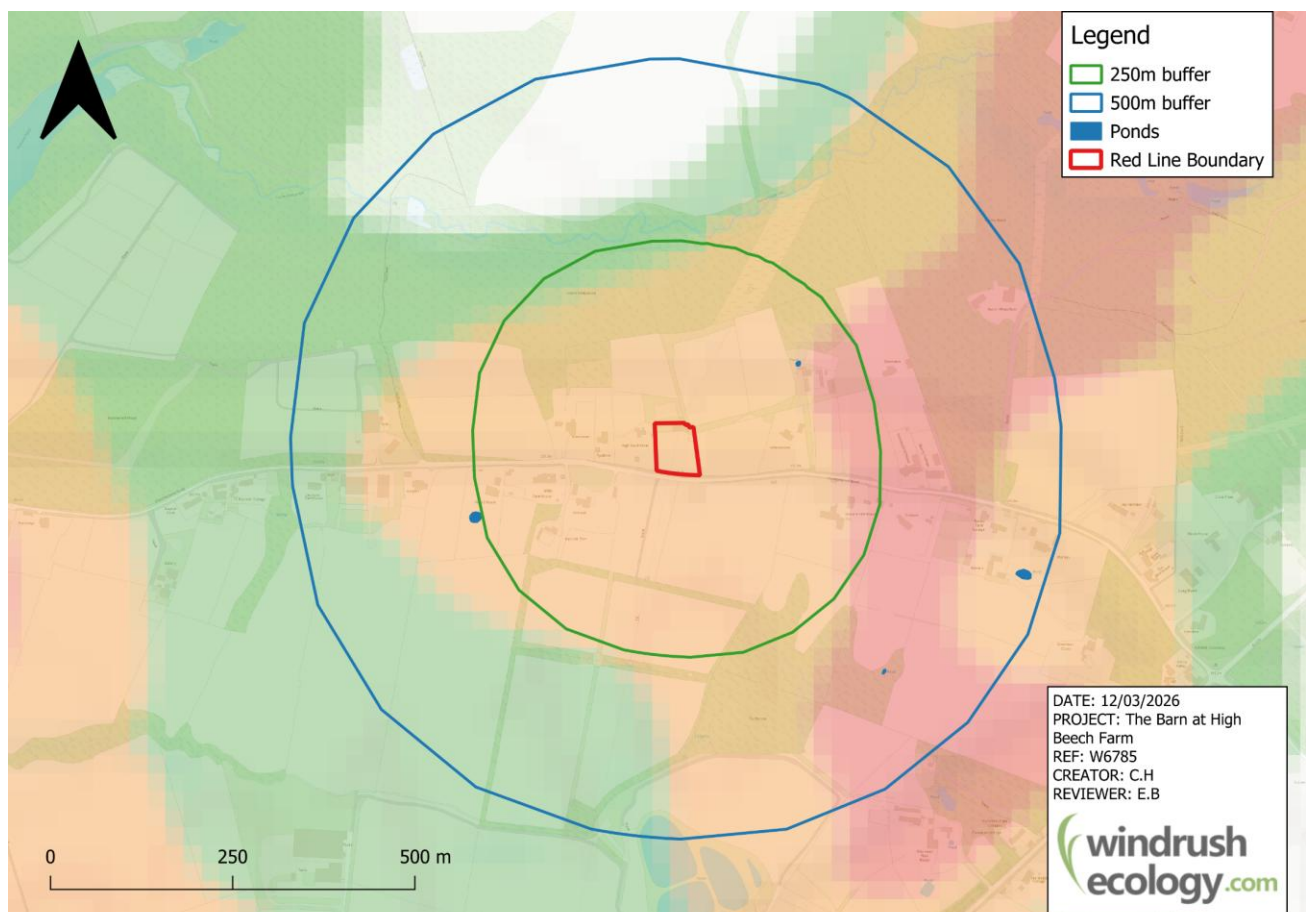


Figure 1. Plan showing the location of the ponds within a 500m radius of the site indicated by the green buffer and within a 250m radius indicated by the blue buffer. Great Crested Newt Impact Risk Zones are indicated in green, amber and red.

The site is located within an Amber Risk Zone on the NatureSpace great crested newt impact risk map, meaning that the area is considered to contain suitable habitat and that great crested newts are likely to be present.

There is a single record of great crested newts from within 1km of the site.

The modified grassland is considered to be of negligible suitability to amphibians due to grazing and maintenance of the sward to a short height. Any cover or shelter is removed which creates an undesirable habitat. There are two brash piles within the site that amphibians could use for shelter, protection and hibernation, however the grassland surrounding these features is considered unsuitable.

Given the above discussion, it is considered that amphibians, including great crested newts, are absent from the site during the terrestrial phase of their lifecycle.

4.3.4 Reptiles

The modified grassland is species poor and has a short sward due to grazing and is homogenous in its height and structure. The modified grassland is not considered to be suitable for common reptile species such as grass snake or slow worm.

There are two brash piles within the site which may offer some shelter.

4.3.5 Birds

The individual trees offer potential nesting sites for nesting birds, and this may include species of 'principal importance' such as dunnoek *Prunella modularis*.

The site is unsuitable for ground-nesting species, due to disturbance that is not conducive to ground-nesting species, as well as the poor structure of the grassland.

4.3.6 Bats

4.3.6.1 Bats & Buildings

No bats or evidence of bats were found within the Barn.

The Barn is assessed as having 'negligible' potential suitability for roosting bats (Collins, 2023).

4.3.6.2 Bats & Trees

The trees within the site are assessed as having 'NONE' potential to offer shelter to roosting bats (Collins, 2023). The trees exhibit no potential roosting features.

4.3.6.3 Bats & Habitats

The surrounding habitats include woodland, lines of trees and grassland. These habitats are considered suitable for commuting and foraging bats. However, the grassland and individual trees within the site are considered to provide limited foraging and commuting potential for bats and are unlikely to provide a key resource of invertebrate prey for local bat populations due to low species diversity of the grassland present within the site. There are considered to be more suitable areas of habitat within the wider locality.

It is considered that the site offers 'low' suitability for foraging and commuting bats (Collins, 2023).

4.3.7 Other Mammals

No badger setts were noted on-site and no evidence of badger activity, such as foraging scrapes, dung, trackways and latrines, were observed during the survey.

The site may provide suitable foraging habitat for hedgehogs.

The habitats within the site are not considered suitable for polecat.

4.3.8 Other Species

No evidence of other notable species was found within the site.

5 Discussion

5.1 Relevant Legislative & Policy Guidance

5.1.1 Nesting Birds

Nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended), which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. The nesting season for most species is between March and August inclusive.

5.1.2 The Natural Environment & Rural Communities Act 2006

Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 places a duty on the Secretary of State to publish, review and revise lists of living organisms and types of habitats in England that are of principal importance for the purpose of conserving English biodiversity.

It also requires the Secretary of State to take, and promote the taking of, steps to further the conservation of the listed organisms and habitats. This is important in the context of planning decisions as the National Planning Policy Framework affords planning policy protection to the habitats of species listed by virtue of Section 41.

There are no habitats listed within Section 41 of the NERC Act 2006 that are considered relevant to the site.

Species listed within Section 41 of the NERC Act 2006 that are relevant to the site, or considered to be potentially relevant, include:

- Bats such as soprano pipistrelle (grassland offers potential, but poor, foraging habitat)
- Hedgehog (grassland offers potential foraging habitat)
- Birds such as dunnock (trees offer potential nesting habitat)

5.1.3 National Planning Policy Framework (NPPF)

The National Planning Policy Framework was revised in response to the proposed reforms to the NPPF and other changes to the planning system consultation on 12th December 2024 and sets out the government's planning policies for England and how these are expected to be applied. This revised framework replaces the previous National Planning Policy Framework published in March 2012, revised in July 2018, updated in February 2012, revised in July 2021, updated in September 2023, and revised in December 2023.

The NPPF states that planning policies and decisions should contribute to and enhance the natural and local environment by:

- protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
- maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
- minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and
- remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.

To protect and enhance biodiversity and geodiversity, plans should:

- Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and
- Promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

When determining planning applications, local planning authorities should apply the following principles:

- If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- Development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
- Development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons, and a suitable compensation strategy exists; and
- Development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around

developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

The following should be given the same protection as habitats sites:

- ❖ Potential Special Protection Areas and possible Special Areas of Conservation;
- ❖ Listed or proposed Ramsar sites; and
- ❖ Sites identified, or required, as compensatory measures for adverse effects on a habitats site, (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.

The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitat's site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.

5.1.4 *Environment Act 2021*

On 15th October 2019, the government introduced a new Bill to Parliament; The Environment Bill. This Bill was given Royal Assent on 9th November 2021 thereby passing the Environment Act 2021. This legislation will help ensure that England maintains and improves its environmental protection.

The Act details a legal requirement for all developments to ensure that a minimum of 10% net gain in Biodiversity is delivered. The Environment Act 2021 will help deliver the government's commitment to halt species decline by 2030.

Under the statutory framework for biodiversity net gain, subject to some exceptions, every grant of planning permission is deemed to have been granted subject to the condition that the biodiversity gain objective is met ("the biodiversity gain condition"). This objective is for development to deliver at least a 10% increase in biodiversity value relative to the pre-development biodiversity value of the on-site habitat. This increase can be achieved through on-site biodiversity gains, registered off-site biodiversity gains or statutory biodiversity credits.

The biodiversity gain condition is a pre-commencement condition: once planning permission has been granted, a Biodiversity Gain Plan must be submitted and approved by the planning authority before commencement of the development. There are exemptions which disapply the condition from certain planning applications.

5.2 **Potential Impacts**

5.2.1 *Sites of Nature Conservation Importance*

There are no foreseeable impacts on any statutory or non-statutory sites of nature conservation importance as a result of the proposals.

This is due to the distance of such sites from the area of proposed development, as well as the scale of the proposals which will only affect habitats within the site boundary and will have no foreseeable direct or indirect impacts on habitats within the wider area.

5.2.2 *Habitats*

There are no foreseeable impacts on habitats of 'principal importance'.

There are no foreseeable impacts on irreplaceable habitats.

The proposals will result in the loss of a small area of modified grassland and developed land; sealed surface habitats that are considered to be of ecological value at the site level or negligible ecological value. The loss of these habitats will not result in a significant ecological impact.

The proposals also include the planting of new trees, which the Metric calculation shows will result in a Biodiversity Net Gain.

5.2.3 Species

5.2.3.1 Plants

There are no foreseeable impacts on rare plants.

5.2.3.2 Invertebrates

There are no foreseeable impacts on rare or protected invertebrates. The loss of some grassland is likely to reduce habitats for invertebrates minimally.

5.2.3.3 Reptiles & Amphibians

The proposed development is not predicted to result in any significant impacts on reptiles or amphibians, including great crested newts. This is due to the fact that these species are considered to be absent from the site.

5.2.3.4 Birds

Works to the Barn may result in the loss of nesting sites. If the works are undertaken when the birds are breeding, this could result in the destruction of active nests and the killing and injury of young and eggs. Mitigation and compensation measures are therefore proposed to avoid these impacts.

There are no foreseeable impacts on ground-nesting bird species.

5.2.3.5 Bats

It is considered that bats are not using the Barn for roosting sites, as there was no evidence of bats.

As a result of this conclusion, works to the Barn are unlikely to result in any significant impacts on bats or the places that they use for breeding, shelter and/or protection (roosts) and no specific mitigation or compensation measures are considered necessary (Mitchell-Jones 2004).

Loss of low ecological value habitats is unlikely to result in a significant loss of foraging habitats for the local bat populations. There are considered to be more suitable areas of habitat within the wider locality.

External lighting can have an impact on bats by affecting their activity and behaviour. Certain species of bat have been shown to be attracted to mercury vapour lamps which emit light over a very broad-spectrum including UV light to which insects are particularly sensitive. Insects can be attracted in large numbers to mercury lamps and so can bats of the genera *Nyctalus* and *Pipistrellus*, including noctules *N. noctula* and common pipistrelles *P. pipistrellus* (Rydell and Racey, 1993). Lighting has shown to have an opposite effect on certain other species, such as the lesser horseshoe bat *Rhinolophus hipposideros*, which have been shown to avoid areas of artificial light (Stone *et al.* 2009).

New external lighting with the site could therefore have an adverse effect on foraging or commuting bats, partially foraging and dispersal behaviour along the site boundaries. Although disturbance by

lighting is unlikely to result in significant impacts under the legal protection afforded to bats (and thus will not require a Bat Licence), lighting may result in a change in bat activity which is not desirable.

5.2.3.6 Other Mammals

The proposed works will result in the loss of a small area of modified grassland that may be used by hedgehogs. However, suitable habitat will remain within the site.

There are no foreseeable impacts on other mammals. This is due to the fact that the site is considered to be unsuitable for these species.

5.2.3.7 Other Species

There are no foreseeable impacts on other protected and notable species.

6 Biodiversity Net Gain Assessment

The Biodiversity Net Gain Assessment and calculation are presented below. The calculation is based on the UKHab Plan in Appendix 4 and the Proposed Habitat Plan in Appendix 5. See Appendix 8 for the biodiversity calculation (Statutory Biodiversity Metric).

6.1 Habitat Status Before Development

The existing habitats are presented in Table 6 below (please refer to Section 3 for a full description of habitats).

Table 6. UKHab baseline habitats.

Habitat UKHab	Total Area (ha)
Modified grassland	0.3643
Developed land; sealed surface	0.0183
Individual trees	0.0204

6.1.1 Habitat Condition Assessment

Habitat condition was assessed according to the criteria given within the Statutory Biodiversity Metric User Guide and Habitat Condition Assessment Sheets. The summary condition assessments for the habitats within the baseline can be found in Table 7.

The details of the habitat condition assessment can be found within the Habitat Condition Assessment Sheets in Appendix 7 of this report (separate Excel spreadsheet).

Table 7. UKHab habitats and condition assessment before development.

UKHab	Condition	Rationale
Modified grassland	Poor	Passes 4 criteria. Fails essential criterion.
Developed land; sealed surface	N/A	Not applicable.
Individual trees	Moderate	Passes 3 criteria.

6.1.2 Habitat Strategic Significance

The site is covered by the Local Nature Recovery Strategy (LNRS) for West Sussex. Therefore, all habitats are inputted as being 'area/compensation not in local strategy/no local strategy' and are of low strategic significance.

This is due to the fact that Metric User Guide states that "Once an LNRS has been published, the baseline strategic significance values for habitat parcels in that area should always be scored as low."

6.2 Habitat Status After Development

The proposed development will result in the loss of a small area of modified grassland and developed land; sealed surface.

Please refer to Appendix 4 which contains a UKHab habitat plan of the proposed habitats showing all of these elements and to Appendix 6 for a plan which depicts areas of habitat that will be lost and retained.

6.2.1 Developed Land; Sealed Surface

The proposals include the construction of a new agricultural building.

6.2.2 Artificial Unvegetated, Unsealed Surface

The proposals include the construction of a gravel access driveway.

6.2.3 Newly Planted Trees

Twelve new trees are to be planted within the proposals. These trees will be located to the east of the site to comply with restrictions associated with the power lines, and will be small, native trees.

The newly planted trees and existing trees will be maintained at a condition of **moderate** through achieving 3 or 4 of the following criteria:

- The tree is native species.
- The tree canopy is predominantly continuous (individual trees automatically pass this criterion).
- There is little or no evidence of an adverse impact on tree health by human activity.
- More than 20% of the tree canopy area is oversailing vegetation beneath.

The proposed habitat areas/lengths after development are presented in Table 8.

Table 8. UKHab habitats retained, enhanced and created and target condition assessment after development.

On-Site Habitat Retention, Enhancement & Creation		
Habitat	Area (ha)	Target Condition
Modified grassland (retained)	0.3243	Poor
Modified grassland (created)	0.0123	Poor
Developed land; sealed surface (retained)	0.006	N/A
Developed land; sealed surface (created)	0.04	N/A
Individual trees (retained)	0.0204	Moderate
Individual trees (created)	0.0489	Moderate

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6.3 Biodiversity Metric Calculation Summary

The result of the Statutory Metric calculation is:

Total net unit change in habitats: **+0.09 Habitat Units**

Total net % change in habitats: **+10.45% Habitat Units**

The Trading Rules are **satisfied**.

Based on current proposal plans, achieving biodiversity net gain within the site is considered possible.

Please refer to Appendix 8 (separate document) for full details of the Metric calculation.

7 Recommendations

7.1 Further Surveys

No further surveys are considered to be necessary at this stage.

7.2 Habitats

7.2.1 Protection of Existing Habitats

It is recommended that the retained trees are protected in accordance with British Standard 5837:2012, through the establishment of appropriate root protection zones.

7.3 Species

7.3.1 Nesting Birds

The clearance of any woody vegetation should be undertaken outside of the bird breeding period, avoiding March to August inclusive. If this is not possible, the vegetation should be checked for active nests prior to removal to confirm the absence of nesting birds. This will avoid impacts of damage and destruction to active birds' nests.

It is recommended that the demolition of the Barn is initiated outside the breeding bird season, avoiding March to September inclusive, to avoid any direct impacts on active birds' nests. If this is not possible, the sites where birds are currently nesting should be blocked or netted outside of the breeding period to prevent birds from returning to nest the following season. Works can proceed once there is confidence that birds have been excluded, and it has been confirmed that there are no active nests within the buildings.

The loss of nesting sites should be compensated through a variety of measures, depending on the ecology of the species in question. Swallows require a 'free-flight' entry into a building where there are suitable beams for nest building. Therefore, replacement nest sites can only be created within a new building (such as a new stable building, woodshed or car-port) into which swallows are allowed access. The species will not adopt bird boxes, but 'nest cups' have been developed to encourage colonisation of buildings by this species. The erection of at least one nest cup within a new stable or outbuilding is recommended.

In addition, it is recommended that a small number of nest boxes for common or garden bird species are erected on mature trees or on the building. The boxes should be suitable for smaller bird species such as tits and robins. Longer-lasting bird boxes such as the Schwegler Avianex box should be favoured over traditional wooden boxes.

Over 60 species are known to adopt nest boxes including blue tits, great tits, starlings, robins and sparrows. The location and nature of the nest box depends on the species it is designed for; boxes for tits, sparrows or starlings should be fixed two to four metres up a tree or a wall; open-fronted boxes for robins and wrens need to be low down, below 2m, and well-hidden in vegetation. Unless there are trees or buildings which shade the box during the day, boxes should be faced between north and east, thus avoiding strong sunlight and the wettest winds.

7.3.2 Bats

7.3.2.1 Licencing

There are no predicted impacts on roosting bats as a result of the proposals. There is no evidence to indicate that the barn is being used as a place of shelter/protection by roosting bats and works to remove the barn are unlikely to result in any significant impacts on bats or the places that they use for breeding, shelter and/or protection (roosts) and no specific compensation measures would be considered necessary (Reason & Wray, 2023).

If no significant impacts on bats are predicted under The Conservation of Habitats and Species Regulations 2017, a European Protected Species (bat) Licence (EPSL) will not be required for the proposed works to proceed. If there are no predicted impacts on bats or their habitats, it is not necessary to consider the 'three tests' of The Conservation of Habitats and Species Regulations 2017 in this instance.

7.3.2.2 Timing

No timing constraints are considered necessary.

7.3.2.3 Lighting

It is recommended that external lighting is avoided within the site, unless it is necessary for reasons of security and safety. In particular, lighting should be avoided around any new bat roosting features and along the boundaries of the site.

The key in the first instance is to maintain or reduce existing light levels, and reduce blue content to protect the bat species present; this is in line with the mitigation hierarchy where impacts are avoided in the first instance by being planned out (Bat Conservation Trust, 2023).

If lighting is required, it should be kept at low level and at low intensity (Bat Conservation Trust, 2023 and Emery, 2008).

Light sources, lamps, LEDs and their fittings come in a myriad of different specifications which a lighting professional can help to select. However, the following should be considered when choosing luminaires and their potential impact on key habitats and features:

- All luminaires should lack UV elements when manufactured. Metal halide, compact fluorescent sources should not be used
- LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability
- A warm white light source (2700Kelvin or lower) should be adopted to reduce blue light component
- Light sources should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012)
- Internal luminaires can be recessed (as opposed to using a pendant fitting) where installed in proximity to windows to reduce glare and light spill

- Waymarking inground markers (low output with cowls or similar to minimise upward light spill) to delineate path edges
- Column heights should be carefully considered to minimise light spill and glare visibility. This should be balanced with the potential for increased numbers of columns and upward light reflectance as with bollards
- Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered
- Luminaires should always be mounted horizontally, with no light output above 90° and/or no upward tilt
- Where appropriate, external security lighting should be set on motion sensors and set to as short a possible a timer as the risk assessment will allow. For most general residential purposes, a 1 or 2 minute timer is likely to be appropriate
- Use of a Central Management System (CMS) with additional web-enabled devices to light on demand
- The use of bollard or low-level downward-directional luminaires is strongly discouraged. This is due to a considerable range of issues, such as unacceptable glare, poor illumination efficiency, unacceptable upward light output, increased upward light scatter from surfaces and poor facial recognition which makes them unsuitable for most sites. Therefore, they should only be considered in specific cases where the lighting professional and project manager are able to resolve these issues.
- Only if all other options have been explored, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed. However, due to the lensing and fine cut-off control of the beam inherent in modern LED luminaires, the effect of cowls and baffles is often far less than anticipated and so should not be relied upon solely.

7.3.3 *Hedgehogs*

The removal or clearance of vegetated habitats poses a risk to individual hedgehogs, should they be sheltering within these areas at the time of works. It is recommended that clearance of these habitats is carried out in a sensitive manner, outside of the hedgehog hibernation period (avoiding November to February, inclusive).

7.3.4 *Other Species*

Enhancement measures for other species could include bee bricks integrated into external walls, and log piles to provide habitat for fungi and invertebrates.

8 References

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- UKHab Ltd, 2023. *UK Habitat Classification Version 2.0* (<https://www.UKHab.org>).

9 Appendix 1. Photographs



Photograph 1. The barn viewed from the south-west.



Photograph 3. The barn viewed from the south.



Photograph 5. Examples of nesting material within the barn.



Photograph 2. Interior of the new section of the barn.



Photograph 4. Interior of the old section of the barn.



Photograph 6. Examples of nesting material within the barn.



Photograph 7. The lean-to section of the barn.



Photograph 8. The barn viewed from the north.



Photograph 9. Brash pile under the lean-to.



Photograph 10. Brash pile within the site.

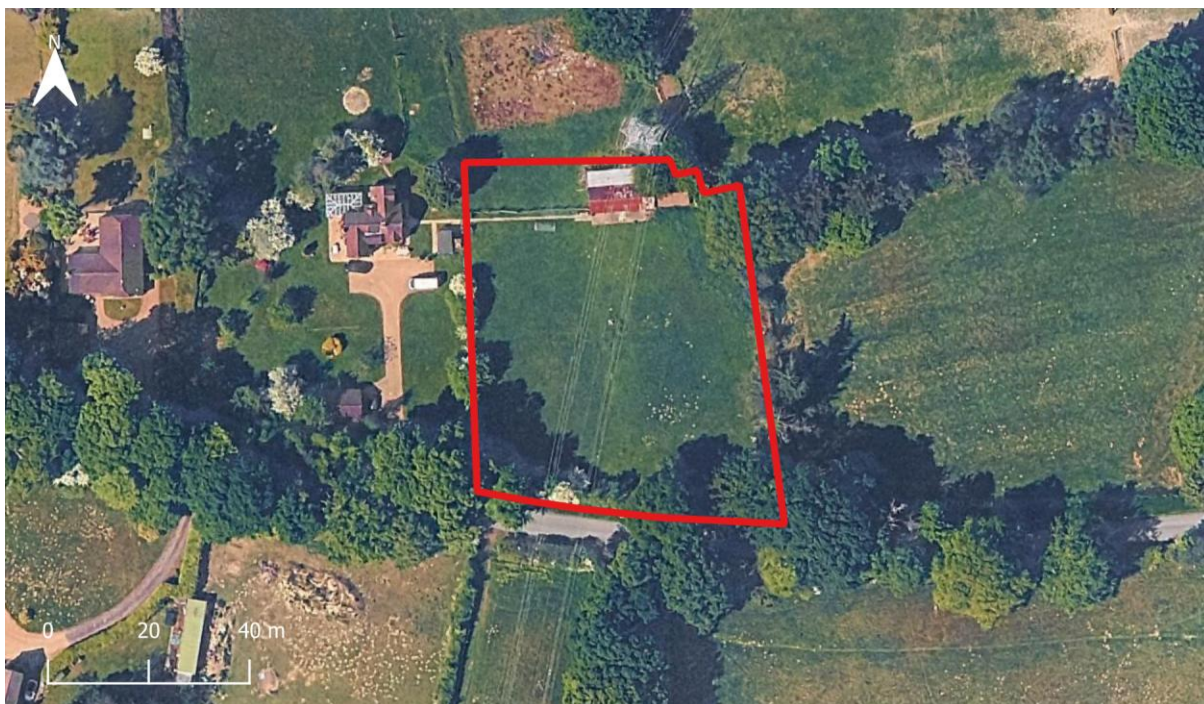


Photograph 11. Modified grassland viewed from the south-east.

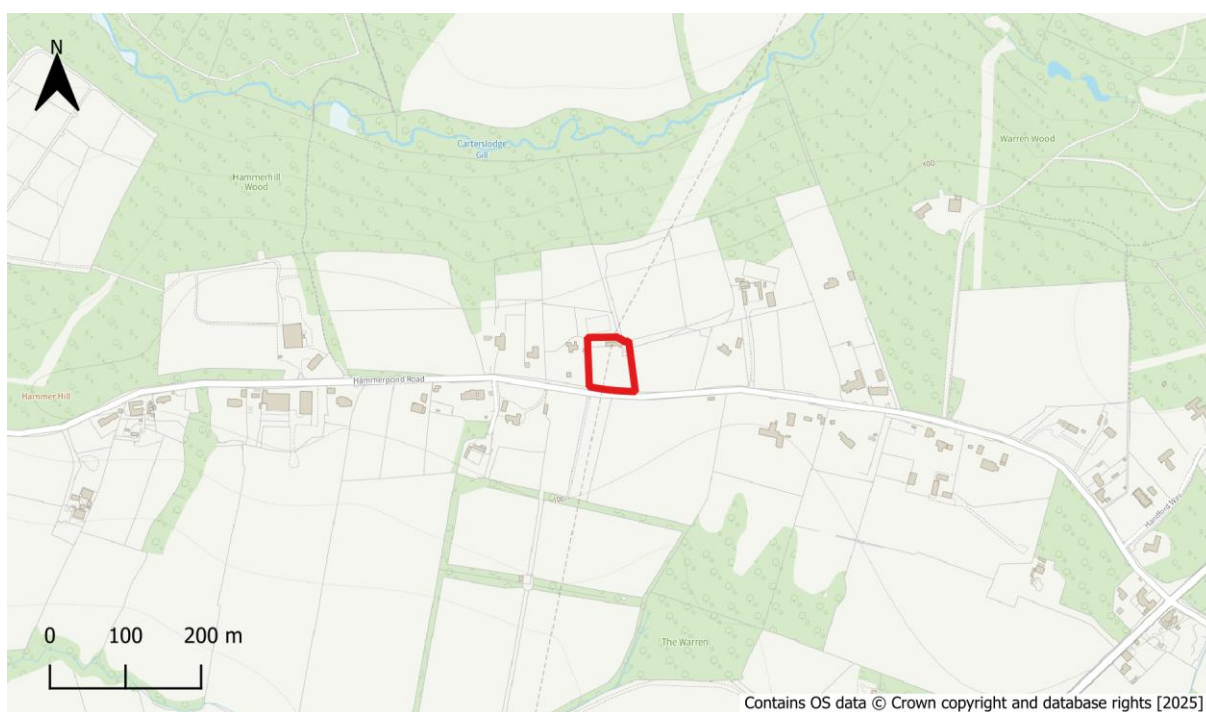


Photograph 12. Modified grassland within the site.

10 Appendix 2. Site Location Plans

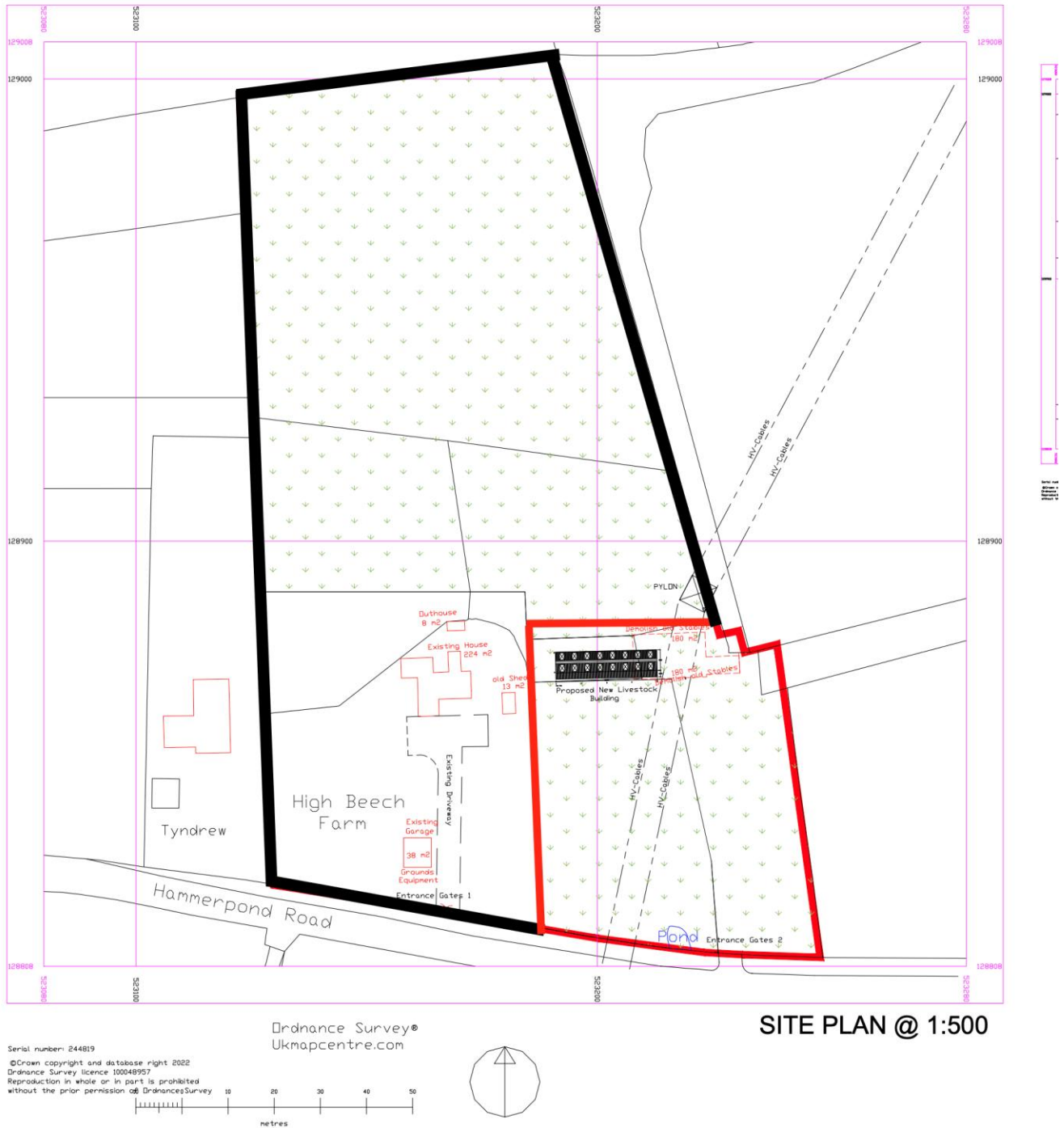


Aerial photograph showing the location of the site (outlined in red). Source: *Google Satellite*



Map showing the location of the site (outlined in red) within the local area. Source: *OSM Standard*

11 Appendix 3. Proposal Plan



12 Appendix 4. Baseline UKHab Habitat Plan



13 Appendix 5. Proposed Habitat Plan



14 Appendix 6. Habitat Change Plan



15 Appendix 7. Habitat Condition Assessment Sheets

Please refer to separate Excel Spreadsheet.

16 Appendix 8. Statutory Biodiversity Metric

Please refer to separate Excel Spreadsheet.