



Project: 24_PEA_BNG_11_15
Site: Sandhill Farm, Sandhill Lane, Crawley Down, West Sussex, RH10 4LE
Client: Adrian Kirkpatrick



[Supplementary Document - Survey Methodology PRA.](#)

[Supplementary Document - Potential Roosting Features.](#)

Project Number:	24_PEA_BNG_11_15
Report Type:	Preliminary Ecological Appraisal Report (PEAR)
Site Address:	Sandhill Farm, Sandhill Lane, Crawley Down, West Sussex, RH10 4LE

Role:	Name:	Date:
Customer	Adrian Kirkpatrick	N/A
Surveyor	Connor Harmsworth	11/11/24
Consultant	Gwennan Butler	15/11/24

Revision History		
Date:	Version number:	Summary of changes:
21/11/24	1.0	First Review (Internal)
16/12/24	1.0	First Issue

Summary:	
Site Surveyed	Land at Sandhill Farm, Sandhill Lane, Crawley Down, West Sussex, RH10 4LE National Grid Reference: TQ 3501 3681
Purpose & Brief	Preliminary ecological appraisal commissioned by Adrian Kirkpatrick
Development Proposals	The proposed development involves the installation of a single caravan on the designated plot. This will require minor groundwork to establish an appropriate base and provide necessary services, while integrating within the existing features of the site. The development is expected to have a minimal footprint relative to the surrounding ecological context.
Methods	Desk Study UK Habitat Classification (UKHab) survey of the site. Assessment of likely significant effects as far as can be reasonably and proportionally known
Confirmed Ecological Constraints	None
Potential Ecological Constraints	Nesting birds
Recommendations For Further Survey Works	Pre-works nesting bird check Production of wildlife sensitive lighting scheme
Opportunities For Ecological Enhancements	Bat boxes Bird boxes Native species planting

With the assumption that the existing conditions on-site remain unchanged. The results of this report are likely to remain valid for 12-months inline with the guidance published by CIEEM and the Bat Conservation Trust.

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Appendix 1: Site Location and Assessment Boundary

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Acknowledgements:

Data referred to within this report was sourced from Natural England Department for Environment, Food and Rural Affairs Multi-Agency Geographic Information for the Countryside (DEFRA MAGIC) database and through direct consultation with Sussex Biodiversity Record Centre (SxBRC).

Client Documents:

This report has been completed on assumption that the plans provided by the client at the time of issue of this report remain the same. A list of the documents provided by the client can be found in the table below.

Table: Documents provided by the client as of October 2024

Plans provided by client as of 31/10/24
block plan - proposed.pdf

1 Introduction

- 1.1 ROAVR Group were commissioned to undertake a Preliminary Ecological Appraisal Report (PEAR) at Sandhill Farm, Sandhill Lane, Crawley Down, West Sussex, RH10 4LE.
- 1.2 The survey was comprised of a desktop study, which was undertaken in November and a site survey, which was carried out by Connor Harmsworth.
- 1.3 The methodology and results are outlined within the report. Where applicable, recommendations for suitable mitigation and ecological enhancements are provided.
- 1.4 The report is to be submitted to support a planning application. Full details of the proposals can be found on the planning portal.
- 1.5 The information and recommendations within this report have been prepared and provided in accordance with CIEEM's Code of Professional Conduct (CIEEM, 2022).

SITE DESCRIPTION

- 1.6 The survey site covers an area of approximately 1,951.1 sqm and is centred on grid reference 'TQ 3501 3681'.
- 1.7 The site is situated in a rural area in the Mid Sussex District Council control area. The site is located to the southeast of Crawley Down and is accessed via a private driveway.
- 1.8 The site is located at Sandhill Farm, a working agricultural plot featuring semi-improved grassland as the primary habitat where the proposed development is to take place. This area is surrounded by scattered trees, which create natural boundaries along the site's periphery (see Tree Survey). A beech hedge forms the southern boundary of the site, while paddocks lie to the south, promoting a semi-rural landscape with scattered tree cover and open grassland.

Two disused chicken runs are present within the plot. Building 1 (B1) and Building 2 (B2) are small, derelict structures, both of which appear to have limited to no use as ecological features (see associated photographs). No trees within the vicinity have been identified as having bat roost potential. The overall habitat structure within the site is typical of a managed agricultural landscape, with no significant ecological features present that would likely be impacted by the proposed development.

DEVELOPMENT PROPOSALS

- 1.9 The proposed development involves the installation of a single caravan on the designated plot. This will require minor groundwork to establish an appropriate base and provide necessary services, while integrating within the existing features of the site. The development is expected to have a minimal footprint relative to the surrounding ecological context.

SCOPE OF WORKS

- 1.10 The aims of this assessment were to:
- identify the likely ecological constraints associated with the proposed development;
 - identify suitable mitigation measures (if required);
 - determine whether further surveys are necessary;
 - identify opportunities for ecological enhancement;

2 Methodology

DESKTOP STUDY

- 2.1 Site-specific information in relation to land designations, protected species and protected habitats within a 2km search area was sourced from DEFRA MAGIC and SxBRC.
- 2.2 In order to ensure that ecological data searches were up to date, species data was screened and all data records pre-2012 was omitted from the results.
- 2.3 Results of the desktop study should be considered to be indicative only.

UKHAB SURVEY

- 2.4 A Preliminary Ecological Appraisal, comprised of a site walkover and mapping was undertaken by Connor Harmsworth on the 11th November 2024. The PEA was undertaken in line with CIEEM's 'Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017). Connor Harmsworth has been completing preliminary ecological appraisals for over five years and regularly undertakes surveys of this scale. They have received professional training in all aspects covered in this report.
- 2.5 The survey was conducted from the ground. Habitats and features of importance were mapped using a GPS enabled handset.
- 2.6 A Site Habitat Map was produced in accordance with the UK Habitat Classification Manual (Butcher et al., 2020). (Appendix 3).

PRELIMINARY BAT ROOST ASSESSMENT (PRA)

- 2.7 A Preliminary Roost Assessment, comprised of a preliminary ground level roost assessment was undertaken during the site survey on 11/11/24. The PRA was undertaken in line with the Bat Conservation Trust's 'Bat Surveys for Professional Ecologists: Best Practice Guidelines' (Collins, 2023).
- 2.8 The survey included an active search for evidence of bats (such as droppings, feeding remains, urine splatters, oil staining, bat fur and/or scratch marks) and potential roosting features (PRFs). PRFs of trees are listed in Table 2.10.1. PRFs of built structures are listed in Table 2.8.1. The lists are not exhaustive but show examples of the most commonly used roosting features of built structures and trees.

Table 2.8.1: Potential roosting features (PRFs) in built structures listed in Bat Conservation Trust's 'Bat Surveys for Professional Ecologists: Best Practice Guidelines' (Collins, 2023).

Potential roosting features (PRFs) in built structures	
External	Internal
- Access/egress through windowsills, window panes and walls; - Behind peeling paintwork or lifted rendering; - Behind hanging tiles; - Weatherboarding; - Eaves; - Soffit boxes; - Fascias; - Lead flashing; - Gaps under felt (even including those of flats roofs); - Under tiles/slates; - Existing bat boxes; - Gaps in brickwork or stonework which provide access/egress to cavity or rubble-filled walls	- Behind wooden panelling; - In lintels above doors and windows; - Behind window shutters and curtains; - Behind pictures, posters, furniture, peeling paintwork, peeling wallpaper, lifted plaster and boarded windows; - Inside cupboards and in chimneys accessible from fireplaces; - Within attic roof voids; - The top of gable end or dividing walls; - The top of chimney breasts; - Ridge and hip beams and other roof beams; - Mortise and tenon joints; - All beams; - The junction of roof timbers, especially where ridge and hip beams meet; - Behind purlins; - Between tiles and the roof lining; - Under flat felt roofs

GROUND LEVEL TREE ASSESSMENT (GLTA)

- 2.9 A Preliminary Bat Roost Assessment, comprised of a preliminary ground level roost assessment was undertaken by Connor Harmsworth during the site survey on 11/11/24. The GLTA was undertaken in line with the Bat Conservation Trust's 'Bat Surveys for Professional Ecologists: Best Practice Guidelines' (Collins, 2023).
- 2.10 The survey included an active search for evidence of bats (such as droppings, feeding remains, urine splatters, oil staining, bat fur and/or scratch marks) and potential roosting features (PRFs). PRFs of trees are listed

in Table 2.10.1. The lists are not exhaustive but show examples of the most commonly used roosting features of trees.

Table 2.10.1: Potential roosting features (PRFs) in trees listed in Bat Conservation Trust's 'Bat Surveys for Professional Ecologists: Best Practice Guidelines' (Collins, 2023) Table 6.6.

Table 2.10.1. PRF types that can be exploited by bats and how they form (adapted from Bat Roosts in Trees, BTHK, 2018) reproduced from Table 6.6. (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	• Lighting strikes • Hazard beams • Subsidence • Cracks • Shearing cracks • Transverse snaps • Welds • Lifting bark • Desiccation • Fissures • Frost cracks	• Fluting • Ivy

Table 2.10.2. Guidelines for assessing the suitability of trees on proposed development sites for bats, to be applied using professional judgement.reproduced from Table 6.6. (Collins, 2023.)	
Suitability	Description
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

2.11 A Site PRF Map was produced to show the location of built structures, trees and potential roosting features (PRFs). Habitats and features of importance were mapped using a GPS enabled handset.

SUITABILITY ASSESSMENT

2.12 The likelihood of occurrence of protected ecological features and species was ranked in accordance with the criteria listed in Tables 2.12.1 and 2.12.2. Likelihood of occurrence was assessed using data collected during the desk study and after evaluation of the habitats on-site (during the site survey) as to their likelihood to provide suitability for protected species (i.e. presence of breeding, nesting, roosting, foraging, commuting and/or refuge habitat for example).

Table 2.12.1: Criteria used to assess the likelihood of occurrence for protected ecological features and species on-site (excl. bats).

Likelihood of occurrence	Criteria
Present	Confirmed as present during the site survey or by confirmed historical records.
High	Species are known to be present within close proximity to the site (records present). Habitats on-site are of high quality for the species and/or likely to support a large population. The site is well connected to good quality habitat within the local area.
Moderate	Species are known to be present within the local area (records present). Habitats on-site are of moderate quality for the species and/or likely to support a moderate population. The site and connected habitats provide all of the ecological requirements of the species. Suitability of habitats on-site may be limited due to disconnectivity to the wider landscape, poor to moderate habitat available within the wider locality, and/or due to the presence of only a small area of suitable habitat.
Low	Few or no records of the species within the local area. Habitats on-site are of poor quality for the species and/or likely to support just a few individuals. The suitability of habitats may be limited due to disturbance, isolation and/or poor quality habitat available within the wider locality. However, species presence cannot be discounted due to the national distribution of the species or the nature of on-site and surrounding habitats (if all required ecological requirements for the species are present).
Negligible	While presence cannot be absolutely discounted, the site includes very limited or poor quality habitat for a particular species. Connected habitats do not fulfil the ecological requirements of the species. There are no local records and/or the site is outside the known national range of the species.

Table 2.12.2: Criteria used to assess the likelihood of occurrence (site's suitability) for bats, from Bat Conservation Trust's 'Bat Surveys for Professional Ecologists: Best Practice Guidelines' (Collins, 2023) (Table 4.1.)

Potential suitability	Description	
	Roosting bats	Potential flight-paths and foraging habitats
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).	No habitat features on site likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade/protection for flight-lines, or generate/shelter insect populations available for foraging bats).
Negligible	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.	No obvious habitat features on site likely to be used as flight-paths or by foraging bats; however a small element of uncertainty remains in order to account for non-standard bat behaviour.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions 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 or hibernation). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.	Habitat that could be used by small numbers of commuting bats but isolated (i.e. not very well connected to the surrounding landscape by other habitat). Suitable, but isolated habitat that could be used by small numbers of bats for foraging such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, appropriate conditions and/or suitable surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only - with respect to roost type only).	Continuous habitat connected to the wider landscape that could be used by bats for flight-paths such as lines of trees or linked back gardens. Habitat that is connected to the wider landscape that could be used for bats for foraging such as trees, scrub, grassland or water.
High	A structure or tree 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 sites.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats. Site is close to and connected to known roosts.

ECOLOGICAL CONSTRAINTS AND MITIGATION

- 2.13 An evaluation of the potential ecological constraints to the proposed development and appropriate mitigation strategies was made following CIEEM's 'Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM, 2018).

LIMITATIONS

- 2.14 Only one site visit was undertaken, therefore, a full evaluation of species present throughout the year could not be made. Therefore, there were seasonal constraints to species identification. However, the data collected during the site survey was sufficient to make an appropriate assessment of the site.
- 2.15 The site maps shown in Appendix 3 were produced from an Ordnance Survey Tile purchased from our mapping supplier. A site walkover with a GPS enabled handset was used to inform the location and extent of existing habitats shown on the appended mapping and is as accurate as possible but some error must be allowed for without a full topographical survey.

3 Policy and Legislative Context

- 3.1 This section includes the legislative context of those protected species or other notable species that are recorded on-site, or have the potential to be present on-site. Details on specific legislation for other protected or notable species that have not been identified as being present, or having the potential to be present, are not included below.

NATIONAL PLANNING POLICY

- 3.2 The introduction of the National Planning Policy Framework (NPPF) in March 2012 sets out the Government's planning policies for England and how these are expected to be applied in the presumption in favour of sustainable development. It sets out the Government's requirements for the planning system, only to the extent that it is relevant, proportionate and necessary to do so and is a material consideration for local planning authorities in determining applications.
- 3.3 Planning Practise Guidance is relevant covering the Natural Environment alongside the NPPF. Therefore features of ecological value should be considered in the context of conserving and enhancing the natural environment.
- 3.4 The Government's objectives for planning are to promote sustainable development, to conserve, enhance and restore the diversity of England's wildlife and geology and to contribute to rural renewal and urban renaissance.

LOCAL PLANNING POLICY

- 3.5 This report has been commissioned in order to comply with Mid Sussex District Plan 2014-2031 and the policy DP38 'Biodiversity.'

<https://www.midsussex.gov.uk/planning-building/mid-sussex-district-plan/>

NATIONAL AND INTERNATIONAL LEGISLATION

- 3.6 Bern Convention on the Conservation of European Wildlife and Natural Habitats (1982)
- 3.7 Convention on the Conservation of Migratory Species of Wild Animals (1983)
- 3.8 Countryside and Rights of Way Act (2000)
- 3.9 National Parks and Access to the Countryside Act (1949)
- 3.10 Natural Environment and Rural Communities Act (2006)
- 3.11 Protection of Badgers Act (1992)
- 3.12 The Conservation of Habitats and Species Regulations (2017)
- 3.13 The Convention of International Trade in Endangered Species of Wild Fauna and Flora (1975)
- 3.14 The Hedgerows Regulations (1997)
- 3.15 UK Biodiversity Action Plan (1994)
- 3.16 Wildlife and Countryside Act (1981)
- 3.17 Wild Mammals (Protection) Act (1996)

4 Desktop Study

SITE DESIGNATIONS

4.1 There are two designated sites within the 2km search area.

Table 4.1.1: Designate sites recorded within a 2km radius of the survey site.

Site Name	Grid Reference	Area (ha)	Approx. Closest Distance from Site (km)
Turners Hill SSSI	TQ 338 354	0.16	1.7 km
High Weald AONB	N/A - Not noted	146172	0.9 km

*Data from DEFRA MAGIC

Table 4.1.2: Local wildlife sites recorded within a 2km radius of the survey site.

Site Name	Grid Reference	Area (ha)	Approx. Closest Distance from Site (km)
Worth Way	N/A - Not noted	N/A - Not noted	N/A - Not noted
Lobbs Wood & Furnace Pond	N/A - Not noted	N/A - Not noted	N/A - Not noted

*Data from DEFRA MAGIC

LOCAL HABITAT

4.2 There were more than thirty priority habitats that were formerly mapped within the 2km search area.

Table 4.2.1: Priority habitats formerly mapped within a 2km radius of the survey site.

Habitat	Approx. Closest Distance from Site (km)
Deciduous Woodland	0 km
Deciduous Woodland	0.2 km SE
Traditional Orchard	0.2 km N
Deciduous Woodland	0.3 km NE
Deciduous Woodland	0.2 km S
Deciduous Woodland	0.3 km W

*Data from DEFRA MAGIC

4.3 There were four standing water bodies situated within a 500m radius of the survey site. The River Medway runs approximately 280m south of the site.

HISTORICAL SPECIES RECORDS

- 4.4 Protected species records relating to the site and 2km search area were obtained from the SxBRC as part of the desktop study. The data search contains confidential information that is not suitable for public release. Therefore, the data has not been included in the report.
- 4.5 A full list of identified species recorded within the 2km search area can be requested from SxBRC.
- 4.6 The absence of identified records does not discount the presence of a species. An absence of identified records is primarily a result of a lack of survey or the non-submission of records. Furthermore, historical records of species do not confirm their current presence within an area.
- 4.7 Two records of European water vole (*Arvicola amphibius*) were recorded within 2km of the site. No records of other aquatic species, including Eurasian otter (*Lutra lutra*) and white-clawed crayfish (*Austropotamobius pallipes*) were found.
- 4.8 The search found 122 records of bats within 2km of the site, including Common pipistrelle (*Pipistrellus pipistrellus*), Soprano pipistrelle (*Pipistrellus pygmaeus*), Brown long-eared bat (*Plecotus auritus*), Noctule bat (*Nyctalus noctula*), and Serotine (*Eptesicus serotinus*).

Table 4.8.1: Previous protected species licences for bats mapped within a 2km radius of the survey site

Reference, Date and Species	Approx. Distance from Site (km)
2017-31276-EPS-MIT - 25/10/2017 - Brown long-eared bat (<i>Plecotus auritus</i>)	0.5 km NE
2014-3084-EPS-MIT - 16/09/2014 - Brown long-eared bat (<i>Plecotus auritus</i>), Common pipistrelle (<i>Pipistrellus pipistrellus</i>)	1.1 km N
EPSM2012-4307 - 24/04/2012 - Brown long-eared bat (<i>Plecotus auritus</i>), Common pipistrelle (<i>Pipistrellus pipistrellus</i>)	1.5 km NW

*Data from DEFRA MAGIC

- 4.9 The data search found ten records of West European hedgehog (*Erinaceus europaeus*) within 10km of the site. No records of badger (*Meles meles*) or Hazel dormouse (*Muscardinus avellanarius*) were found within 2km of the site.
- 4.10 There are 17 records of grass snake (*Natrix natrix*) and three records of Slow worm (*Anguis fragilis*) within 2km of the site.

- 4.11 The search found records of amphibian species within 2km of the site including common toad (*Bufo bufo*), common frog (*Rana temporaria*), Palmate newt (*Lissotriton helveticus*) and smooth newt (*Lissotriton vulgaris*). There were 22 records of Great crested newt (*Triturus cristatus*) found within the search radius. A search of DEFRA MAGIC showed four previous protected species licences for Great crested newts within 2km of the site.

5 Site Survey

- 5.1 The site survey was undertaken on 2024-11-11. The weather conditions were considered to be appropriate to survey (Table 5.1.1).

Table 5.1.1: Weather conditions at the time of survey.

Date of site survey: 11/11/2024	
Temperature	11°C
Wind	1/12
Precipitation	0%

*Data from BBC Weather.

UK HABITAT SURVEY

5.2 The habitats presented consist of the following UK Hab categories:

- H2a Native Hedgerow
- G3c Other Neutral Grassland
- G4 Modified Grassland
- U1b5 Buildings

5.3 A description of habitat present along with target notes is shown in Table 5.3.1. The location of habitats is shown in the Site Habitat Map, Appendix 3.

Table 5.3.1: Description of habitats present on-site (please also see the Site Habitat Map, Appendix 4).

Habitats and Target Notes	Description	Supporting Photo
H2a Native Hedgerow	The southern boundary of the site is lined with a well-established beech (<i>Fagus sylvatica</i>) hedge. The hedge is well-maintained and consists primarily of beech, with little species diversity observed. Ground flora beneath and around the hedge is sparse, with common species such as bramble (<i>Rubus fruticosus</i>) and ivy (<i>Hedera helix</i>) occasionally present. This habitat may offer nesting opportunities for common birds, but there is limited potential for other protected species due to the homogeneity of the hedge and the absence of dense undergrowth or significant structural features. The hedgerow acts as a linear boundary feature, contributing modestly to habitat connectivity for small mammals and invertebrates moving through the site.	 Photo 1

G3c Other Neutral Grassland

The central area of the site is classified as semi-improved neutral grassland, hosting a mix of grass species typical of moderately nutrient-enriched soils. Dominant grasses include common species such as perennial ryegrass (*Lolium perenne*) and crested dog's-tail (*Cynosurus cristatus*), interspersed with forb species such as common dandelion (*Taraxacum officinale*) and white clover (*Trifolium repens*). Occasional patches of creeping buttercup (*Ranunculus repens*) and broadleaf plantain (*Plantago major*) are visible, particularly in more compacted areas. The grassland has been subject to historical agricultural management, which has limited the diversity compared to more natural grasslands. No notable or protected plant species were identified, and the grassland is unlikely to support significant populations of protected fauna, although it may act as a foraging area for birds and small mammals. The proposed development will have a minor impact on this habitat, with ample opportunity for compensation or enhancement through sensitive landscaping measures.



Photo 2



Photo 3



Photo 4



Photo 5

G4 Modified Grassland

The habitat to the south of the plot consists of managed paddocks typically used for grazing. The sward is dominated by highly resilient grasses such as meadow foxtail (*Alopecurus pratensis*), timothy (*Phleum pratense*), and cocksfoot (*Dactylis glomerata*), all of which are frequently found in heavily managed agricultural grasslands. Occasional weedy species, including broadleaf plantain (*Plantago major*) and creeping thistle (*Cirsium arvense*), are present in compacted or bare areas, particularly along the edges of worn pathways. The paddocks are in active use, with no significant structural diversity in the habitat, making them less suitable for protected species. However, they may act as occasional foraging grounds for species such as birds and small mammals. Given the low ecological complexity and agricultural use, the paddocks are not considered a high-value ecological feature, and the proposed development is unlikely to have any significant impact on this habitat.



Photo 6



Photo 7

		
		Photo 8
U1b5 Buildings	There are two buildings on site. Building 1 and Building 2 (B1 & B2) are both disused chicken runs.	
		Photo 9

		 Photo 10
Target Notes	The surveyor has identified one target note (TN) relevant to the ecological assessment of the site. These target notes describe specific areas of ecological interest, providing further detail on features that may influence biodiversity calculations and recommendations for the proposed planning application. TN1: A group of mature trees is located to the east of the plot within a geese pen. The tree species present include oak (<i>Quercus robur</i>), goat willow (<i>Salix caprea</i>), silver birch (<i>Betula pendula</i>), and wild cherry (<i>Prunus avium</i>). These trees provide structural diversity and potential ecological value, particularly in terms of contributing to habitat continuity for species such as birds and invertebrates. However, no trees offer bat roost potential, limiting the likelihood of direct impact on protected species.	 Photo 11

PRELIMINARY BAT ROOST ASSESSMENT (PRA)

- 5.4 Two disused chicken runs are present within the plot. Building 1 (B1) and Building 2 (B2) are small, derelict structures, both of which appear to have limited to no use as ecological features (Photos 9 & 10).

The northern elevation of Building 1 appears dilapidated, with areas of rusted wire mesh and deteriorating wooden panels. Vegetation growth is limited, with no signs of either ivy or climbing plants that might offer additional cover. Given the lack of structural integrity and absence of crevices, this elevation has negligible potential for supporting roosting bats or nesting birds.

The southern elevation shows significant wear, with the disused chicken run fencing in poor condition and metal sheets showing signs of corrosion. There are no overhanging eaves or sheltered cavities present that might provide opportunities for nesting by birds or use by other protected species. The open nature of the structure further limits ecological interest.

The eastern elevation is similarly rundown, with exposed sections offering very little in terms of shelter or habitat connectivity. The ground adjacent to the building remains relatively clear, apart from sparse vegetation, further reducing any likelihood of supporting notable fauna.

The roof of Building 1 consists of corrugated metal, largely intact but showing visible signs of rust. No significant features such as gaps, cracks, or tiles that might provide bat access points are apparent, and the structure itself appears unsuitable for providing roosting opportunities due to its lack of complexity and shelter. Ecological impact from the proposed development regarding this structure is therefore expected to be **negligible**.

- 5.5 **No trees** within the vicinity were identified as having bat roost potential during the site visit. The overall habitat structure within the site is typical of a managed agricultural landscape, with no significant ecological features present that would likely be impacted by the proposed development.

6 Evaluation and Assessment

- 6.1 Results from the desktop study and site survey were evaluated to assess the likelihood of occurrence for protected ecological features and species potential (as per Table 2.12.1). An evaluation of the potential impacts due to the proposed development and recommendations for appropriate mitigation measures are provided in Table 6.1.1.

Table 6.1.1: Likelihood of occurrence of protected ecological features and species on-site, potential impacts due to the proposed development and recommendations for appropriate mitigation measures.

Protected feature / species	Likelihood of occurrence / suitability	Comments / Justification	Impact due to Proposed Development	Required Mitigation Measures
Protected sites	Negligible.	The site is not situated within, or adjacent to, any known protected sites. The site is not considered to be well connected to any known protected sites.	None anticipated.	None required.
Protected habitats	High.	Deciduous woodland has been formerly mapped on-site.	As the proposals involve the installation of a single caravan, the development will not affect the surrounding habitat.	None required.
Protected plant species	Low.	There are records of protected plant species within 2km of the site. However, no protected plant species were observed during the site survey. Habitats on-site are not considered to be unique or of high quality to support protected plant species. However, their presence cannot be entirely discounted.	The site does not appear to support protected plant species, thus, the proposed development is unlikely to impact upon protected plant species.	None required.
Amphibians (incl. Great Crested Newts)	Low.	There are records of amphibians, including great crested newts, within 2km of the site. However, no water features, ponds, or suitable	None anticipated.	None required.

Protected feature / species	Likelihood of occurrence / suitability	Comments / Justification	Impact due to Proposed Development	Required Mitigation Measures
		aquatic habitats were identified within or adjacent to the site.		
Bats (Chiroptera)	Roosting bats			
	Negligible.	There were records of bat species within 2km of the site. The PRA determined that all built structures on-site had negligible potential for roosting bats.	The proposed development will not result in any disturbance to suitable roosting habitats.	None required.
	Foraging/Commuting bats			
	Moderate.	Grassland and hedgerow habitats on-site were considered to be suitable for foraging/commuting bats. Furthermore, the site has good connectivity to high quality habitats within the wider locality, including farmland, grassland, hedgerow and woodland.	Mitigation measures must be put in place to ensure that disturbance does not increase during and/or post-development.	Construction works should be limited to daylight hours (excl. dawn and dusk) in order to prevent disturbance to nighttime foraging activity. Post-construction, the use of artificial lighting should be limited where possible. Motion sensors on outside lighting will prevent prolonged disturbance. It is recommended that outside lighting be set on short-timers (1 minute) and that the sensitivity is set to large moving objects only.

Protected feature / species	Likelihood of occurrence / suitability	Comments / Justification	Impact due to Proposed Development	Required Mitigation Measures
Birds	Moderate.	No bird nesting was observed on site. However the boundary trees, beech hedge, and scattered vegetation provide suitable nesting and foraging opportunities for common bird species.	The proposed development will not result in any loss to suitable habitat for breeding birds.	Any removal of suitable nesting habitat must be completed outside of the nesting bird season (March to September inclusive) unless immediately following a nesting bird check by a suitably qualified ecologist.
Invertebrates	Low.	There were records of protected invertebrate species within the 2km search radius. No protected invertebrate species were identified during the site survey. Habitats on-site are not considered to be unique or of high quality to support protected invertebrate species. However, are likely to support a range of common and widespread species associated with grassland.	The site does not appear to support protected invertebrate species, thus, the proposed development is unlikely to impact upon protected invertebrate species.	None required.
Reptiles	Low.	There are records of reptiles within 2km of the site. No reptiles, or evidence of reptiles, was found during the site survey. The semi-improved grassland and paddocks offer limited habitat diversity and are actively managed, reducing suitability for reptiles.	The proposed development will not result in any substantial habitat loss that will impact upon local populations long-term.	The grassland should continue to be maintained and kept short through mowing and management up until the point of any construction works commencing on-site to prevent the habitat from becoming more favourable to reptiles.

Protected feature / species	Likelihood of occurrence / suitability	Comments / Justification	Impact due to Proposed Development	Required Mitigation Measures
Other terrestrial mammals (excl. bats).	Badgers (<i>Meles meles</i>)			
	Low.	There are no known records of Badgers within 2km of the site. No evidence of badger activity, such as setts, latrines, or tracks, was recorded during the site visit. The agricultural setting is suboptimal for badgers due to limited foraging and shelter opportunities.	The proposed development will not result in any substantial habitat loss to impact upon local populations long-term.	None required.
	Dormice (<i>Gliridae</i>)			
	Negligible.	There are no known records of Dormice within 2km of the site. The habitat on site is considered to be not suitable for the species.	None anticipated.	None required.
	Hedgehogs (<i>Erinaceus europaeus</i>)			
	Moderate.	There are records of Hedgehogs within 2km of the site. The scattered tree line and hedgerows may provide suitable cover, nesting, and foraging grounds for hedgehogs, although no direct evidence of their presence was	Mitigation measures must be put in place to ensure that disturbance does not increase during and/or post-development.	Construction works should be limited to daylight hours (excl. dawn and dusk) in order to prevent disturbance to nighttime foraging activity. During hibernation season (October to March), piles of leaf litter and logs should be

Protected feature / species	Likelihood of occurrence / suitability	Comments / Justification	Impact due to Proposed Development	Required Mitigation Measures
		observed. The site was well connected to suitable habitats and there were ample access/egress points.		retained to ensure hibernating hedgehogs are not harmed. If removal is unavoidable, the piles must be carefully checked before burning. Any trenches or other excavations left open overnight should either be well covered or provided with an escape ramp (comprised of a sloped side or wooden plank reaching up to ground level or slightly above), to allow any Hedgehogs that fall into escape.
	Otters (<i>Lutra lutra</i>)			
	Negligible.	There are no known records of Otters within 2km of the site. There were no suitable aquatic habitats for the species on, or adjacent to, the site.	None.	None required.
	Water Voles (<i>Arvicola amphibius</i>)			
	Negligible.	There are two known records of Water Voles within 2km of the site. However there were no suitable aquatic habitats for the species on, or adjacent to, the site.	None.	None required.

Protected feature / species	Likelihood of occurrence / suitability	Comments / Justification	Impact due to Proposed Development	Required Mitigation Measures
	Common and widespread mammals			
	Moderate.	No evidence of mammals was observed on site however, species such as foxes (<i>Vulpes vulpes</i>) and rabbits are likely to use the area for occasional foraging or transit.	Mitigation measures must be put in place to minimise disturbance during the construction phase.	Any necessary excavation of animal burrows should be done carefully to avoid unnecessary suffering (such as crushing or asphyxiation). Construction works should be limited to daylight hours in order to prevent disturbance to nighttime foraging activity. Any trenches or other excavations left open overnight should either be well covered or provided with an escape ramp (comprised of a sloped side or wooden plank reaching up to ground level or slightly above), to allow any wildlife that falls to escape. Any newly built boundary features should incorporate 'wildlife gaps' (comprised of a 13x13cm gap at the base of the feature), to allow wildlife to pass through.
Invasive plant species	Low.	No invasive species listed under Schedule 9 of the	Invasive plant species have the potential to impact	If invasive plant species are found, it is recommended to

Protected feature / species	Likelihood of occurrence / suitability	Comments / Justification	Impact due to Proposed Development	Required Mitigation Measures
		Wildlife and Countryside Act 1981 (as amended) were found during the survey. As there were seasonal constraints to plant identification, it is possible that invasive plant species are present and have yet to be identified.	protected species and habitats	consider appropriate methods of removal.

7 Biodiversity Enhancements

- 7.1 The development should be used as an opportunity for biodiversity enhancements, by creating new opportunities for wildlife.

BATS

- 7.2 It is recommended to install two bat boxes on-site. Bat boxes should be positioned in areas of low human disturbance, in spaces that are unshaded for most of the day.
- 7.3 A crevice bat box is suitable for smaller bat species. These boxes should also be positioned 3-5 metres above ground level, orientated southwards.
- 7.4 A crevice bat box should be positioned 3-5 metres above ground level, orientated southwards. The box should be positioned in an area of low human disturbance, in a space that is unshaded for most of the day. There should be a clear path between the entrance and suitable habitat.

BIRDS

- 7.5 It is recommended to place two new bird boxes on-site.
- 7.6 A traditional nest box should be placed 3 metres above ground level in an area of low disturbance. The box should be sheltered away from prevalent weather conditions, commonly associated within the UK, such as strong sunlight, prevailing winds and rain.

INVERTEBRATES

- 7.11 It is recommended to install invertebrate boxes on-site. The boxes should be suitable for solitary bees.
- 7.12 Nectar-rich wildflowers should be planted within close proximity to the bee bricks/invertebrates boxes to create new opportunities for pollinators.
- 7.13 Fruit trees make ideal habitat for many invertebrate species. Thus, it is recommended to plant new garden ornamental fruit trees on-site. For example, Crab Apple (*Malus sylvestris*), Wild Cherry (*Prunus avium*) and Common Pear (*Pyrus communis*).

TERRESTRIAL MAMMALS

- 7.14 It is recommended to plant native species-rich hedgerows on-site, which will enhance connectivity and provide refuge for small mammals. Suitable species would include Common Beech (*Fagus sylvatica*), Common Hawthorn (*Crataegus monogyna*), Rowan (*Sorbus aucuparia*) and Crab Apple (*Malus sylvestris*) for example.

TREES

- 7.15 New tree planting would be a welcomed addition to development. New tree planting should be considered carefully, with consideration to species, location and future management. New trees should be robust and of high quality. Where possible, native species should be used. However, considerations should be given to climate change and potential pathogens.

8 Conclusions

- 8.1 The site at Sandhill Farm, Sandhill Lane, Crawley Down, West Sussex, RH10 4LE is to be redeveloped with the installation of a single caravan.
- 8.2 The development will result in a small loss of grassland to establish an appropriate base and provide necessary services for the caravan.

ECOLOGICAL CONSTRAINTS

- 8.3 Development proposals must have regard for protected species identified as potentially occurring on, or near to, the site (e.g., amphibians, birds, terrestrial mammals, and reptiles). Mitigation measures to protect these species have been produced within this report to ensure that the proposed works comply with relevant UK legislation.
- 8.4 Further mitigation measures have been outlined within the report to ensure that protected species are not impacted by the development.

MITIGATION STRATEGIES

- 8.5 A tool box talk should be given to all relevant personal by a suitable qualified ecologist before any works commence on-site to outline ecological constraints and the required mitigation measures.
- 8.6 The existing amenity grassland should be retained at a short sward prior to any demolition/construction works commencing on-site in order to ensure that the habitat does not become more favourable to amphibians and/or reptiles.
- 8.7 Tree works (if required) should take place outside the breeding season (typically March-October) or once a suitability qualified ecologist has inspected the trees for breeding birds and confirmed that there are no active nests.
- 8.8 Construction works should be limited to daylight hours (excl. dawn and dusk) in order to prevent disturbance to nighttime foraging activity.
- 8.9 Any necessary excavation of animal burrows should be done carefully to avoid unnecessary suffering (such as crushing or asphyxiation).

- 8.10 During hibernation season (October to March), piles of leaf litter and logs should be retained to ensure hibernating hedgehogs are not harmed. If removal is unavoidable, the piles must be carefully checked before burning.
- 8.11 Post-construction, the use of artificial lighting should be limited where possible. Motion sensors on outside lighting will prevent prolonged disturbance. It is recommended that outside lighting be set on short-timers (1 minute) and that the sensitivity is set to large moving objects only.
- 8.12 Any newly built boundary features should incorporate 'wildlife gaps' (comprising a 13x13cm gap at the base of the feature), to allow wildlife to pass through.

BIODIVERSITY NET GAIN

- 8.21 The project is to be used as an opportunity for biodiversity net gain by creating new opportunities for wildlife. New habitat creation is to be implemented on-site and should be included within the final project design.
- 8.22 The site as existing consists of 0.20 habitat units. These units are made up of primarily modified and neutral grassland with small areas of previous urban development. Additionally there is 0.06 hedgerow units and zero watercourse units on site.
- 8.23 Post development the site consists of primarily 0.17 neutral grassland habitat units, a loss of -15.09%. The hedgerow units as per the proposal remain at 0.06, and the watercourse units remain unchanged.
- 8.24 The latest statutory Biodiversity Net Gain (BNG) metric, *Biodiversity Metric 4.0*, published in August 2024 was used to complete this assessment. A copy of the metric is included with this report
- 8.25 The current plans do not result in the mandatory 10% gain.
- 8.26 **Required actions** - To meet the mandatory 10% net gain in habitat units, either design changes will be required OR offsite credits.
- 8.27 **Recommendations** - Net gain can be achieved on site through several means.

Enhancing the modified grassland into other neutral grassland of at least moderate condition would offset the loss of other neutral grassland from the development.

The criteria for a moderate condition neutral grassland is that the habitat displays a consistently high proportion of characteristic indicator species relevant to the habitat. This criterion is critical for achieving Moderate or Good condition in non-acid grassland habitats.

The sward height is varied, with at least 20% of the sward under 7 cm and at least 20% over 7 cm, creating microclimates that support insects, birds, and small mammals. Bare ground coverage ranges between 1% and 5%, including localised features like rabbit warrens. Bracken (*Pteridium aquilinum*) covers less than 20%, and scrub (e.g., bramble *Rubus fruticosus* agg.) covers less than 5%.

The combined cover of suboptimal species and physical damage (e.g., poaching, machinery damage, excessive access, or damaging management) constitutes less than 5% of the total area. The presence of any invasive non-native plant species listed under Schedule 9 of the Wildlife and Countryside Act automatically fails this criterion.

The habitat supports 10 or more vascular plant species per m², including forbs characteristic of the habitat type.

Additionally with the grassland habitat loss accounted for biodiversity net gain could be achieved though planting 4 small poor condition trees on site.

The criteria for a small poor condition tree is that it must meet two or fewer of the condition criteria as outlined in Annex 1 of the statutory metric. vegetation beneath. This is straightforward and achievable on site.

By following these recommendations >10% net gain can be achieved on site.

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Gwennan Butler



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Checked by: Antony Aslam MSci QCIEEM

Appendix 1: Site Location and Assessment Boundary

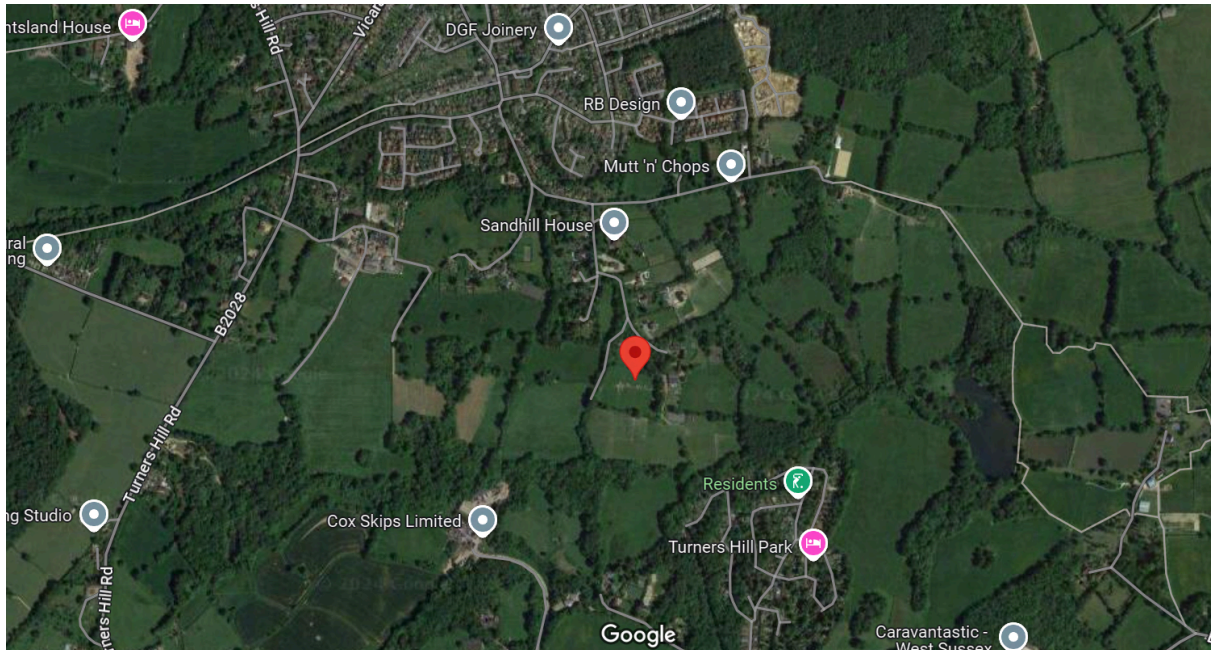


Figure A1.1: Extract from Google Maps showing the site location. (Google, 2024)

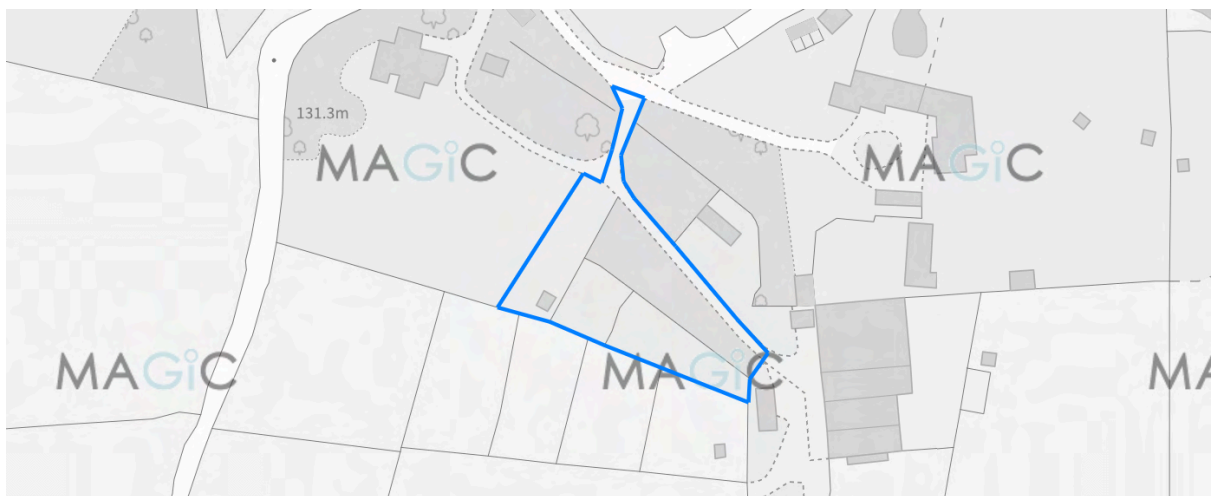


Figure A1.2: Extract from DEFRA MAGIC showing the assessment boundary. (MAGIC, 2024)

Appendix 2: Desktop Study

*Data from DEFRA.

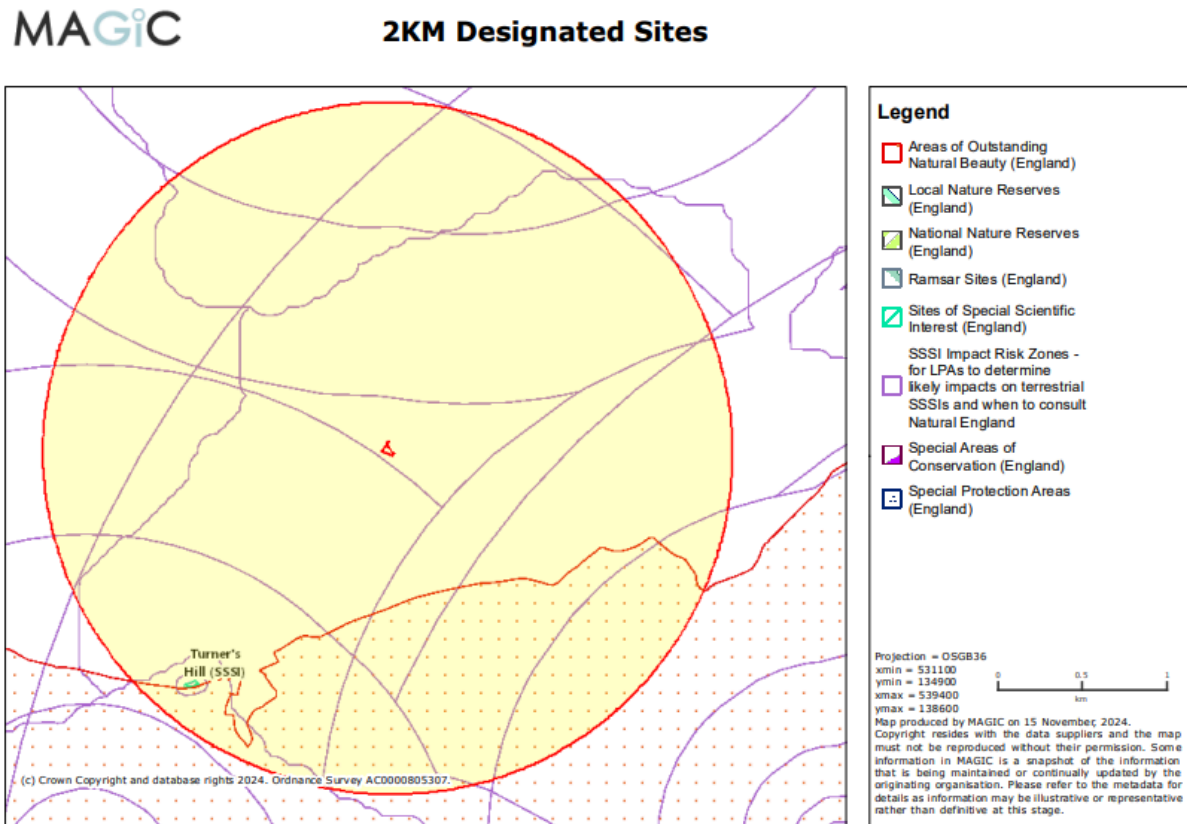


Figure A2.1: Location of designated sites situated within a 2km search radius of the site.

*Data from DEFRA.

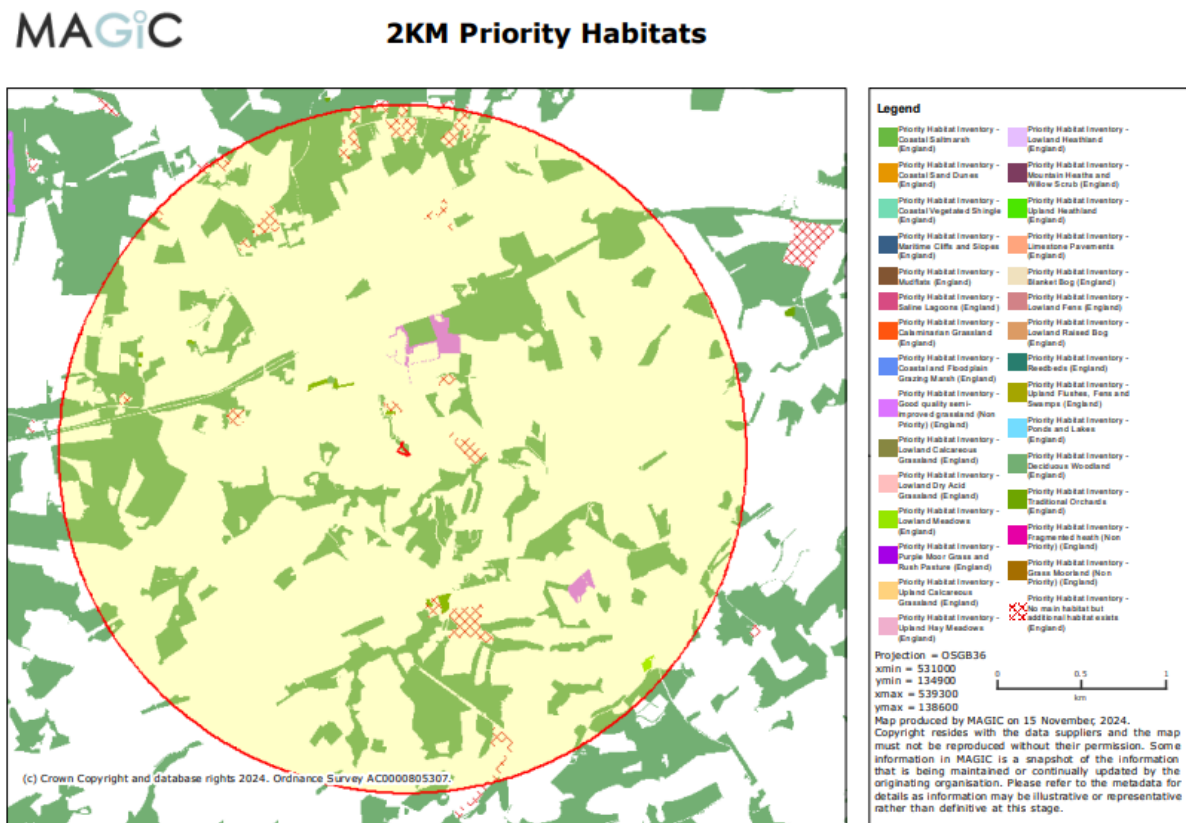


Figure A2.2: Priority habitats formerly mapped within a 2km search radius of the site..

*Data from Bing Maps

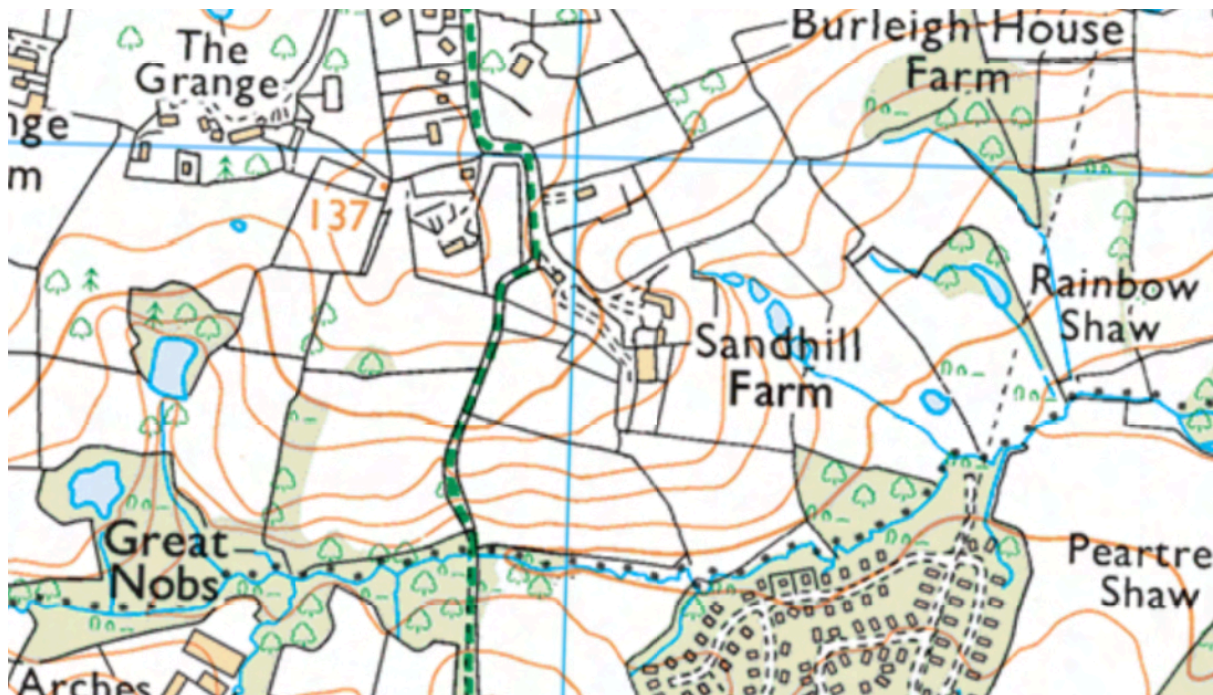


Figure A2.3: Standing water bodies formerly mapped within a 500m search radius of the site.

Appendix 3: Site Maps

A3.1 The Site Habitat Map was produced in accordance with the UK Habitat Classification Manual (Butcher et al., 2020).





