MKA

Preliminary Ecological Appraisal

Land off Hogshaw Road, Granborough

Site	*Land off Hogshaw Road, Granborough*
Project number	*130322*
Client name / Address	*Statera Energy Limited, 1st floor, 145 Kensington Church Street, London, W8 7LP*

Version number	**Date of issue**	**Revisions**
1.0	*24 October 2022*	*Original*
2.0	*23 November 2023*	*Updates due to increased red line boundary*

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Declaration of compliance

This Preliminary Ecological Appraisal has been undertaken in accordance with British Standard 42020:2013 "Biodiversity, Code of practice for planning and development". The information which we have provided is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's (CIEEM) Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

MKA Ecology Ltd is a CIEEM Registered Practice. This means that MKA Ecology Ltd are formally recognised for high professional standards, working at the forefront of our profession.

Validity of data

Unless stated otherwise the information provided within this report is valid for a maximum period of 24 months from the date of survey. If works at the site have not progressed by this time an updated site visit may be required in order to determine any changes in site composition and ecological constraints.

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1. EXECUTIVE SUMMARY

In June 2022 MKA Ecology Limited was commissioned to undertake a Preliminary Ecological Appraisal of Land off Hogshaw Road, Granborough. The appraisal included a habitat survey, protected species scoping survey and desktop study of protected and notable sites and species in the area. A site visit was undertaken on 30 June 2022. A second site visit was completed 24 March 2023 and 05 September 2023 to survey additional fields to the north of the original site boundary.

The Site consists of arable fields with field margins, surrounded by hedgerows, with a stream running along the north-western boundary. The proposed development is for a potential 500MW Battery Energy Storage System (BESS) site.

The following ecological constraints were identified at the Site with recommendations made as follows;

Habitats: The hedgerows and pond, both Habitats of Principal Importance (NERC Act, 2006) should be retained and enhanced within the Site design. The hedgerows and pond should be protected during construction, detailed within the Construction Environmental Management Plan (CEMP) and a 5m buffer natural buffer should be retained post-development. In line with Local Policy NE2 – River and stream corridors, a 10m ecological buffer should be retained along the stream running along the western border of the Site.

Invertebrates: The hedgerows present onsite provide suitable habitat for black hairstreak butterfly, a species listed on Schedule 5 of the Wildlife and Countryside act (1982, as amended). If the development is likely to impact the hedgerows, then it is recommended a black hairstreak egg search survey is completed. These surveys can be undertaken between October and March.

Amphibians: There is suitable terrestrial habitat for great crested newt onsite and a pond is present with previous records of the species. Therefore the likelihood of presence is deemed to be high. Two options are available to address the risk of great crested newt. *Option 1:* Complete environmental DNA surveys on waterbodies within 500m, to confirm presence/absence. eDNA surveys must be undertaken between 15 April and 30 June. *Option 2:* Apply for the works to be undertaken under the Buckinghamshire Council's District Licence for great crested newt. No further survey effort or timing constraints are associated with this approach.

Reptiles: The arable field margins provide suitable habitat for reptiles to enable basking, foraging and hibernating. The hedgerows and stream provide good connectivity to the surrounding landscape and offer valuable commuting opportunities. Records of grass snake and common lizard have been identified within 2km of the Site and the risk of reptiles being present is considered to be moderate. A seven-visit reptile survey will be recommended to confirm the presence/absence of this species group. The optimal period for reptile surveys is

during April, May and September although surveys can be undertaken between March and October inclusive under suitable weather conditions.

- **Breeding birds:** There is a large amount of suitable habitat present at the site to support breeding birds; it is recommended that breeding bird surveys are carried out at the site encompassing six visits to assess the breeding bird assemblage onsite.
- **Nesting birds:** It is also recommended that any removal of suitable nesting habitat is undertaken outside of the breeding bird season (March to August inclusive), if this is not possible, works must be preceded by a nesting bird check undertaken by a suitably qualified ornithologist. These measures should be detailed in the CEMP.
- **Roosting bats:** A number of trees on Site have potential to support roosting bats, due to the presence of knotholes, woodpecker holes and cavities. Furthermore, the line of trees along the stream were also identified as supporting bat roost potential. If these trees are scheduled to be removed, full inspections and/or aerial tree inspections of these trees will be recommended to fully assess these features. This inspection will be undertaken by a licenced ecologist using a ladder and torch/endoscope or tree climbing equipment to better assess the identified features for their suitability to support roosting bats. These tree inspections can be undertaken at any time of year. If the trees cannot be fully assessed during the inspections, further nocturnal surveys may still be required. Trees with moderate suitability for supporting roosting bats require two separate survey visits between April and October.
- **Foraging/commuting bats:** The lines of trees, hedgerows and stream present on site provide a potentially valuable commuting and foraging habitat for bats. There is a low risk of the site supporting a notable commuting route for bats. Bat activity surveys will be recommended to fully assess the value of the site to commuting bats. Habitats with low suitability for supporting bats require one survey visit per season (spring – April/May, summer – June/July/August and autumn – September/October). These surveys should be completed under suitable weather conditions for bat activity.
- [redacted]
- **Water vole:** The riparian habitat and stream provide suitable habitat for water vole. It is recommended a minimum 10m buffer zone is maintained from the stream to avoid potential impacts upon this protected species. If this is not feasible within the site design, a water vole survey will be required to confirm the presence/absence of this species and any further mitigation required. Following best practice guidelines, two survey visits should be undertaken: one between mid-April to the end of June, and one between July and September. These visits should be taken at least two months apart.
- **Brown hare:** The arable field present on Site provide suitable habitat for brown hare. Works should not take place within their breeding season, which runs from February to August; if this

is not feasible, the works area must be checked by an ecologist prior to any works being undertaken. This should be included within the CEMP.

Opportunities exist to enhance biodiversity on the Site post-development. In line with Policy NE1 of the Local Plan, the development should demonstrate an improvement in biodiversity from the existing baseline using the current DEFRA Biodiversity Net Gain metric. Biodiversity enhancements proposed include native planting, hedgerow enhancement, wetland habitat enhancement, as well as the provision of deadwood features incorporating bird and bat boxes into the Site design. A Landscape Ecological Management Plan (LEMP) is recommended to ensure the proposed enhancements are successfully delivered and maintained in the long-term.

The recommendations outlined within this report will ensure that the proposals are in compliance with the National Planning Policy Framework and will also contribute to ensuring a sustainable development that helps to achieve both local and national biodiversity targets.

2. INTRODUCTION

2.1. Aims and scope of Preliminary Ecological Appraisal

In June 2022 MKA Ecology Limited was commissioned to undertake a Preliminary Ecological Appraisal at Land off Hogshaw Road, Granborough by Statera Energy Limited in order to support a planning application for a potential 500MW Battery Energy Storage System (BESS) site.

The aims of the Preliminary Ecological Appraisal were to:

Undertake a desktop study to identify the extent of protected and notable species and habitats within close proximity of the Site;
Prepare a habitat map for the Site;
Identify evidence of protected species/species of conservation concern at the Site;
Assess the potential impacts of the proposed development, using existing plans;
Detail recommendations for further survey effort where required; and
Detail recommendations for biodiversity enhancements.

2.2. Site description and context

The survey area is shown on the map in Figure 1. Within this report this area is referred to as the Site or Land off Hogshaw Road, Granborough. The Site is located west of the village of Granborough within Buckinghamshire (grid reference: SP 75515 25296) and falls under the authority of Buckinghamshire Council. The Site consists of arable fields with field margins, surrounded by hedgerows, with a stream running along the north-western boundary.

2.3. Proposed development

The proposed development comprises a 500MW Battery Energy Storage System (BESS) facility. The proposal involves the installation of 1,204 battery containers, 38 inverter buildings, seven control rooms and an attenuation pond. These will be constructed on the agricultural land.

The proposed soft landscaping also includes areas of wildflower grassland, new woodland, scrub and pond creation. The BESS will require a cable connecting itself to the nearby existing National Grid East Claydon Sub-Station via a tunnel dug underneath the brook. In addition, a temporary haul route from the north will require two crossings over the stream. The bridges' design will span both banks, avoiding impacts to their profiles. The bridges will be removed on completion of the development.

A field within the south of the site boundary will be used to provide benefits for biodiversity. This will include the creation of species-rich grassland, woodland, ponds and scrub habitats.

2.4. Legislation and planning policy

This Preliminary Ecological Appraisal has been undertaken with reference to relevant wildlife legislation and planning policy.

Relevant legislation considered within the scope of this document includes the following:

The Environment Act 2021;
The Wildlife and Countryside Act 1981 (as amended);
The Conservation of Habitats and Species Regulations 2017 (as amended);
Natural Environment and Rural Communities (NERC) Act 2006;
The Countryside and Rights of Way (CRoW) Act 2000;
Protection of Badgers Act 1992; and
Wild Mammals (Protection) Act 1996.

Further information is provided in Appendix 1, including levels of protection granted to the species considered in Section 3.3.

In addition to obligations under wildlife legislation, the revised National Planning Policy Framework (NPPF) updated on 5 September 2023 requires planning decisions to contribute to conserving and enhancing the local environment. Further details are provided in Appendix 1.

The Vale of Aylesbury Local Plan (VALP) 2013-2033, is the current Local Plan which Buckinghamshire Council has adopted for this area (adopted in 2021). It has a number of policies relating to biodiversity and habitat conservation:

Policy NE1 – Biodiversity and Geodiversity
Policy NE2 – River and stream corridors
Policy NE8 – Trees, hedgerows and woodlands

Where relevant these are discussed in further detail in Section 5.

3. METHODOLOGIES

This Preliminary Ecological Appraisal has been undertaken in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Preliminary Ecological Appraisal, 2nd edition (CIEEM, 2017).

3.1. Desktop study

A data search was conducted for the Site and the surrounding area within 2km. Data was retrieved from the sources listed in Table 1.

Table 1: Sources of data for desktop study

Organisation	Data collected	Date collected
Multi-agency Geographic Information for the Countryside (MAGIC) www.magic.gov.uk	Information on local, national and international statutory protected areas.	28/06/2022
Buckinghamshire and Milton Keynes Environmental Record Centre (BMERC)	Information on protected and notable sites and species within 2km of the Site (SP7551525296).	28/06/2022
Ordnance Survey maps and aerial photography	Information on habitats and connectivity between the Site and the surrounding landscape	28/06/2022
Plantlife Important Plant Areas (IPA)	Information on hotspots of diversity for plants and populations of internationally threatened species.	28/06/2022
Buglife Important Invertebrate Areas (IIA)	Information on hotspots of diversity for invertebrates and populations of internationally threatened species.	28/06/2022

Buckinghamshire Council planning portal was also referred to in order to understand the scope of further development surrounding the Site.

3.2. UK Habitat Classification

Habitats were surveyed using the standardised UK Habitat classification and mapping methodology (UK Habs) (Butcher *et al*, 2020). Data were recorded onto a Samsung Tablet in a Geographic Information System (GIS), in this instance QField, following a modified UK Habs Colour Mapping Pallet. Dominant plant species were observed and recorded within each habitat type. The plant species nomenclature follows that of Stace (2019).

The DAFOR scale is used to describe the relative abundance of species. The scale is shown in Table 2. It is important to note that where a species is described as rare this description refers to its relative abundance within the Site and is not a description of its abundance within the wider landscape. Therefore, a species with a rare relative abundance within the Site may be common within the wider landscape.

Table 2: DAFOR scale

DAFOR code	Relative abundance
D	Dominant
A	Abundant
F	Frequent
O	Occasional
R	Rare

3.3. Protected and notable species scoping survey

As part of the Preliminary Ecological Appraisal, an assessment of the potential for the habitats on site to support protected or notable species was made. This assessment was based on the quality, extent and interconnectivity of suitable habitats, along with the results of the desktop study detailed in Section 3.1. This includes Species of Principal Importance as listed on Section 41 of the Natural Environment and Rural Communities (NERC) Act (2006), and Red and Amber listed Birds of Conservation Concern (BoCC) as per Stanbury *et al*., 2021 (see Appendix 1).

Protected and notable species considered within the protected species scoping survey for Land off Hogshaw Road, Granborough include the following:

Plants and fungi: Bluebell *Hyacinthoides non-scripta,* juniper *Juniperus communis.*

Invertebrates: Black hairstreak *Satyrium pruni,* wall *Lasiommata megera,* cinnabar *Tyria jacobaeae,* small heath *Coenonympha pamphilus.*

Fish: Spined loach *Cobitis taenia,* bullhead *Cottus gobio.*

Amphibians: Natterjack toad *Epidalea calamita*, great crested newt *Triturus cristatus* and common toad *Bufo bufo*.

Reptiles: Adder *Vipera berus*, common lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, grass snake *Natrix helvetica helvetica*.

Birds: With special reference to species listed under Schedule 1 of The Wildlife and Countryside Act 1981 (as amended) and Species of Principal Importance.

Mammals: Badger *Meles meles*, bats (all species), water vole *Arvicola amphibius*, otter *Lutra lutra*, hazel dormouse *Muscardinus avellanarius*, hedgehog *Erinaceus europaeus*, brown hare *Lepus europaeus*, harvest mouse *Micromys minutus* and polecat *Mustela putorius*.

In each case the likelihood of presence of these protected species at the Site was classified as being either confirmed, high, moderate, low or negligible.

Confirmed: The species is confirmed on the site during the Preliminary Ecological Appraisal, previous survey effort or recent records.

High: Habitats are available onsite which are highly suitable for this species and there are records within the desktop study. The surrounding areas also provide widespread opportunities for the species which are well connected to the Site.

Moderate: Some suitable habitat available on site for the species although not of optimum quality. Species is present with the desktop study.

Low: Some suitable habitat available on site for the species but this is low value and possibly of small scale or with poor connectivity. No, or very few, records returned in the desktop study.

Negligible: No suitable habitat available for the species, or very little poor-quality habitat.

This protected species scoping survey is designed to assess the *potential* for presence or absence of a particular species or species group, and does not constitute a full survey for these species.

3.4. Surveyor, author and reviewer

The survey was undertaken, and report written, by Rebecca Haines, Graduate Ecologist at MKA Ecology Limited. Rebecca has one year of experience within the ecological consultancy industry. The report has been reviewed by Will O'Connor CEcol MCIEEM, Director and Principal Ecologist at MKA Ecology Ltd. Will has over 15 years' experience as a consultant ecologist.

The additional walkover was undertaken by Felix Bird, Senior Ecologist at MKA Ecology Limited and Hazel Dudley, Graduate Ecologist at MKA Ecology Limited. Felix has over five years' experience within the ecological consultancy industry. Hazel is in her first year in the ecological consultancy industry. Amendments to the original report were drafted by Hazel and reviewed by Felix.

3.5. Date, time and weather conditions

See Table 3 below for details of the date, time and prevailing weather conditions recorded during the site visit for the Preliminary Ecological Appraisal.

Table 3: Date, time and weather conditions of survey visit

Date	Time of survey	Weather conditions*
30/06/2022	9:20	Wind: 1 Cloud: 4 Temp: 16°C Rain: None
05/09/2023	14:20	Wind: 3 Cloud: 0 Temp: 28°C Rain: None

*Wind as per Beaufort Scale / Cloud cover given in Oktas.

3.6. Constraints

A single visit cannot always ascertain the presence or absence of a protected species. However, an assessment is made of the likelihood for protected species to occur based on habitat characteristics and the ecology of each species. Where there is potential for protected species, additional survey work may be required to ascertain their presence or absence.

Data on species records obtained from local biological records centres are sometimes only available at low spatial resolutions and are constrained by the voluntary nature of the contributions and what has been chosen to be submitted as records. While these records provide a useful indication of species recorded in the local area, in particular protected or notable species, the data is not necessarily an accurate reflection of species assemblages or abundance in the vicinity.

4. RESULTS

4.1. Desktop study

An ecological desktop study was completed for the Site and the surrounding 2km. Data provided by Buckinghamshire and Milton Keynes Environmental Record Centre identified a moderate number of UK and European protected species, Species and Habitats of Principal Importance (as listed under Section 41 of the NERC Act 2006), and species of conservation concern within 2km of the Site. It should be noted that this is not a comprehensive list of the distribution or extent of the local flora and fauna of conservation importance. These species records are discussed in greater detail in the protected species scoping survey section.

No internationally statutorily designated sites were identified within 10km of the Site as part of the desktop study.

No statutorily or non-statutorily designated sites were identified within 2km of the Site as part of the desktop study.

Land off Hogshaw Road, Granborough is located west of Granborough, surrounded by arable fields. The Site is bound by hedgerows to the north, east, and south, whilst Claydon Brook runs along the north-western boundary. The wider landscape is dominated by arable fields, with a network of connecting hedgerows, scattered with small villages. The National Grid East Claydon sub-station is located approximately 0.6km north-west of the Site.

The Site lies within the Natural England SSSI Impact Risk Zones (Natural England, 2019) of Sheephouse Wood SSSI and Finmere Wood SSSI. All planning applications including solar schemes with a footprint greater than 0.5ha will require LPA consultation with Natural England on the likely ecological risks associated with the development.

The Site does not lie within any of Plantlife's Important Plant Areas (IPAs) or Buglife's Important Invertebrate Areas (IIAs).

The Buckinghamshire Council planning portal returned planning applications in the area surrounding Land off Hogshaw Road, Granborough. Within 1km of the Site, applications mainly include extensions to existing residential dwellings and small-scale developments.

4.2. UK Habitat Classification

The Site was found to comprise arable fields, surrounded by field margins and hedgerows. More detailed species lists, along with their relative abundance, can be found in Appendix 2. The UK habitat classification survey map is provided in Figure 1, at the end of this section. Descriptions of the habitat types present along with dominant species compositions are provided below.

Cereal crops (c1c) (Photograph 1, Appendix 3)
The majority of the Site is comprised of large arable fields, two of which are currently being used to grow cereal crops, including wheat *Triticum aestivum* and barley *Hordeum vulgare.*

Temporary grass and clover leys (c1b) (Photograph 2, Appendix 3)
Arable field sown with a temporary cover crop, dominated by perennial rye-grass *Lolium perenne.*

Other neutral grassland (g3c) (Photograph 3, Appendix 3)
Marginal areas of grassland surrounding the arable fields, between one and two metres wide. Dominated by false oat-grass *Arrhenatherum elatius* and creeping bent *Agrostis stolonifera*, with frequent common nettle *Urtica dioica* and cow parsley *Anthriscus sylvestris.* There is no indication of wildflower seed mixes being sown or management specifically to provide benefits for wildlife. Therefore this habitat type most closely resembles other neutral grassland as opposed to the priority habitat arable field margins (c1a).

Hedgerow (h2a) (Photograph 4, Appendix 3)
A network of connecting hedgerows is present surrounding the arable fields on Site, comprised of abundant blackthorn *Prunus spinosa* and hawthorn *Crataegus monogyna*. Several trees are present along the length of the hedgerows, including pedunculate oak *Quercus robur* and ash *Fraxinus excelsior*. Ditches are present along the hedgerows, which were dry at the time of the Site visit.

Mixed scrub (h3h) (Photograph 5, Appendix 3)
A small area of scrub surrounds the pond on the south-eastern boundary. Dominated by bramble *Rubus fruticosus agg.*, with frequent common nettle *Urtica dioica*, with white poplar *Populus alba* and ash also present.

Modified grassland (g4) (Photograph 6, Appendix 3)
The site boundary crosses three field of modified grassland to the north, two of which were currently used by grazing livestock. The sward was relatively uniform in length and dominated by perennial ryegrass *Lolium perenne* with occasional cock's-foot *Dactylis glomerata*, creeping bent *Agrostis stolonifera*, meadow buttercup *Ranunculus acris* and dandelion *Taraxacum agg*.

Ponds – Eutrophic standing water (r1a) (Photograph 7, Appendix 3)

One small pond is present on Site, surrounded by scrub. No aquatic vegetation was present.

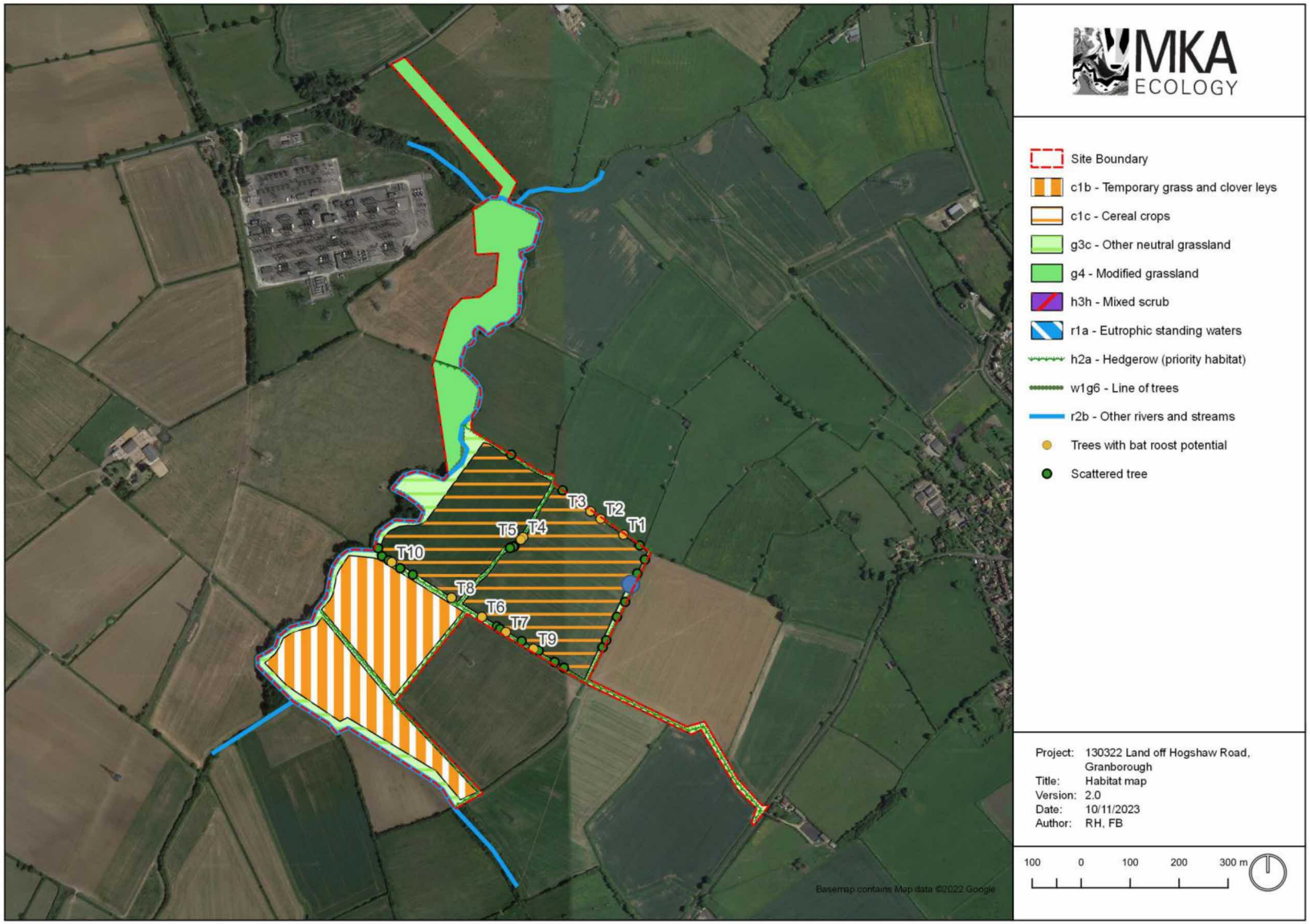
Other rivers and streams (r2b) (Photograph 8, Appendix 3)

Slow flowing stream running along the north-western border of the Site. There is limited aquatic vegetation present with sparse reed sweet-grass *Glyceria maxima.*

Line of trees (w1g6) (Photograph 9, Appendix 3)

A line of mature trees running adjacent to the stream, along the north-western border of the Site. There is abundant blackthorn, with frequent ash and crack willow *Salix fragilis.*

Figure 1: UK Habitat Classification map of Land off Hogshaw Road, Granborough



4.3. Protected species scoping survey

Plants and fungi

The data search returned a small number of records of protected and notable plant species within 2km of the Site. These include species listed on Schedule 8 of the Wildlife and Countryside Act (1981, as amended), namely bluebell, as well as species listed as Section 41 Species of Principal Importance (NERC Act, 2006) such as juniper.

The Site is dominated by arable fields and modified grassland, which have limited potential to support protected or notable plant species. The marginal areas of neutral grassland surrounding the field are limited in extent. This, along with the lack of diversity within these habitats, suggest the likelihood of protected or notable plant species being present is **negligible.**

Invertebrates

The data search returned numerous records of protected and notable invertebrate species within 2km of the Site, including species listed under Section 41 of the NERC Act (2006).

The marginal areas of neutral grassland and small area of scrub on Site provide some opportunities for invertebrates. However, this is of limited quality and limited in structural and species diversity. It is therefore unlikely to support significant assemblages of invertebrates. The data search returned several records of black hairstreak, a species listed on Schedule 5 of the Wildlife and Countryside Act (1981, as amended). Colonies are found in mature blackthorn stands and hedgerows which form the primary larval foodplant. Therefore, the likelihood of this Site supporting protected or notable invertebrate species is considered to be **moderate.**

Fish

The data search returned a small number of notable species of fish within the search area. The stream running along the north-western boundary of the Site is very slow flowing and therefore holds limited scope to support protected or notable fish species. The likelihood of the site supporting such species is considered to be **low**.

Amphibians

The data search returned several records of common toad, smooth newt *Lissotriton vulgaris*, common frog *Rana temporaria* and great crested newt. The most recent records of great crested newt are from 2016. Several records of great crested newt were recorded within a pond on Site, from 2007.

A search of Defra's MAGIC website returned three European Protected Species Licences granted for great crested newt within 2km of the Site (licence period January 2011-September 2011, July 2016-October 2020 and May 2018-December 2023). The licences have been granted 0.6km north-west and 1.8km west of the Site.

The Site falls within zones highlighted as amber on the NatureSpace Impact Risk Zone map suggesting great crested newt are likely to be present, based upon the presence of suitable habitat, as well as previous records on Site.

There is one pond present on Site, which has had previous records of great crested newt. The scrub surrounding the pond, marginal grassland and hedgerows on Site also provide suitable habitat for great crested newt in the terrestrial phase of their life cycle. There are 18 ponds present within 500m of the Site, which are connected via a network of hedgerows and field margins, providing good opportunities for dispersion.

Due to the pond present on Site with previous records of great crested newt, as well as the presence of suitable terrestrial habitat, the likelihood of great crested newt being present on Site is considered to be **high.**

Reptiles

The data search returned one record of grass snake and one record of common lizard from 2009 and 2016 respectively. Both records were approximately 1.8km west of the Site.

The marginal areas of grassland provide suitable habitat for reptiles to enable basking, foraging and hibernating, whilst the hedgerows and stream provide good connectivity to the surrounding landscape and offer valuable commuting opportunities. Overall, the likelihood of reptiles being present on Site is considered to be **moderate.**

Birds

Six species were recorded during the site visit. These species are shown in Table 4 together with their conservation status. It is important to note that this is not a full inventory of species for the site.

Table 4: Bird species recorded during site visit at Land off Hogshaw Road, Granborough

Common name	Systematic name	S1 W&CA[1]	BoCC[2] Status	S41 SPI[3]	Local PrSp[4]
Red kite	*Milvus milvus*	Yes	Green	-	-
Carrion crow	*Corvus corone*	-	Green	-	-
Skylark	*Alauda arvensis*	-	Red	Yes	-
Lesser whitethroat	*Sylvia curruca*	-	Green	-	-
Wren	*Troglodytes troglodytes*	-	Amber	-	-
Yellowhammer	*Emberiza citrinella*	-	Red	Yes	-

[1] Schedule 1 of The Wildlife and Countryside Act 1981 (see Appendix 1)
[2] Birds of Conservation Concern (see Appendix 1)
[3] Section 41 (NERC Act 2006) 'Species of Principal Importance' (see Appendix 1)
[4] Local Priority Species

The data search returned records of species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), including red kite, which was also recorded during the site visit. Other Schedule 1 listed species returned from the data search include peregrine *Falco peregrinus* and redwing *Turdus iliacus.* These species are considered highly unlikely to breed onsite due to the lack of suitable habitat and southern geographical location.

The hawthorn and blackthorn in the hedgerows may provide a foraging resource for overwintering thrushes, such as redwing and fieldfare *Turdus pilaris*, however the hedgerows cover a relatively small area of the Site and are a common habitat in the wider landscape. Therefore the likelihood of the Site supporting a significant wintering assemblage is considered to be **low.**

The habitats onsite provide suitable nesting habitat for common and widespread species, as well as notable species associated with arable farmland such as skylark and reed bunting *Emberiza schoeniclus* and tree sparrow *Passer montanus*, all Species of Principal Importance (NERC, 2006). Skylark were also recorded during the Site visit. There is a **high** likelihood of nesting birds being present during the breeding season, with the risk of the Site supporting a notable assemblage **moderate.**

Bats

The data search returned six species of bat within 2km of the Site (common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared bat *Plecotus auritus,* noctule *Nyctalus noctula,* lesser noctule *Nyctalus leisleri* and myotis sp. *Myotis*).

A search of Defra's MAGIC website returned one European Protected Species Licence granted for the destruction of a common pipistrelle and brown long-eared bat breeding roost (licence period September 2010-December 2012) within 2km of the Site. The licence has been granted 1.9km west of the Site.

Eight trees on Site (T1, T3, T4, T5, T6, T7, T9, T10) were identified as having **moderate** potential to support roosting bats, due to the presence of knotholes, woodpecker holes and cavities. Two trees (T2, T8) were identified as having **low** potential to support roosting bats. Photographs of trees with low and moderate potential to support roosting bats can be seen in Appendix 3.

Trees with moderate potential:

T1: Mature ash two knotholes on south and west aspects, main trunk and several limbs torn. Splits in bark on western aspect.
T3: Early-mature ash with cavity in the main trunk on the western aspect.
T4: Mature ash with cavities and gaps behind bark on eastern aspect.
T5: Mature ash with large cavity of eastern aspect, several knotholes on west aspect.

T7: Mature ash with woodpecker hole and gaps in bark on north-east aspect.
T9: Mature ash with large cavities in main trunk.
T10: Mature ash with a woodpecker hole on the southern aspect and several knot holes.

Trees with low potential:
T2: Mature ash with trunk obscured with ivy, small knothole on north-west aspect.
T8: Oak with all trunk and branched covered in ivy.

The hedgerows and stream present, and the line of trees bordering the Site provide foraging opportunities for bats, as well as potentially acting as an important commuting corridor between the surrounding landscape, which has a connecting network of hedgerows and watercourses, providing suitable habitat for bats. Overall, the Site has been assessed as having **low** suitability for foraging and commuting bats.

Hedgehog
The desk study returned a small number of records for hedgehog within 2km of the Site the most recent from 2021. The arable field margins and scrub on Site provide suitable habitat for this species, as well as being connected to further suitable habitat in the surrounding area, including a network of field margins, hedgerows and small woodland copses. Overall, the likelihood the Site supporting hedgehog is considered to be **moderate.**

Water vole
No records of water vole were returned from the data search. The stream running along the north-west boundary of the Site provides suitable burrowing opportunities and habitat for water vole. The grassland along the banks, as well as the ponds present both on Site and within the surrounding area also provide suitable habitat and have a risk of supporting water vole. Overall, the likelihood of the Site supporting water vole is considered to be **moderate.**

Brown hare

The data search returned one record of brown hare within 2km of the Site, from 2010. The arable fields on Site provide suitable habitat for brown hare, therefore the likelihood of the Site supporting this species is thought to be **moderate/high.**

Other mammals

The data search returned no records of other mammals such as otter or hazel dormouse. Otters may occasionally pass through the stream running through the Site, however the risk of holts being present is **negligible.** The hedgerows provide some suitable habitat for hazel dormouse, however the hedgerows cover a relatively small area of the Site and are a common habitat in the wider landscape. Therefore the likelihood of the Site supporting hazel dormouse is **negligible.**

5. ECOLOGICAL CONSTRAINTS, OPPORTUNITIES AND RECOMMENDATIONS

This section outlines key ecological issues for consideration, recommendations for further work and ecological enhancements where appropriate.

On-site habitats

Hedgerows are classified as a Habitat of Principal Importance under the NERC Act (2006). Hedgerows are present along the perimeter of the Site and between fields. It is therefore recommended that all hedgerows are retained and enhanced within the Site design. Hedgerows can be enhanced through the planting of additional native species, to infill any gaps that have been allowed to develop through lack of maintenance. There should be a minimum of a 5m buffer around the retained hedgerows.

The pond present on Site is also classified as a Habitat of Principal Importance under the NERC Act (2006). Ponds can provide suitable habitat for a wide range of species including invertebrates and amphibians as well as providing water management features on Site. It is recommended the pond in retained, and enhanced with the planting of native aquatic and marginal species. A habitat buffer around the pond should also be created.

In line with Policy NE8 Trees, hedgerows and woodlands of the Vale of Aylesbury Local Plan (VALP) 2013-2033, it is recommended that all trees on Site, including trees within the hedgerows, as well as the line of trees running on the western edge of the stream are retained within the Site design.

In line with Policy NE2 River and stream corridors, the development must not have an adverse impact of the watercourse running along the western boundary of the Site and a 10m ecological buffer should be retained.

Recommendation 1

Hedgerows, trees and the pond should be retained and enhanced where possible within the Site design. A 5m natural buffer should be implemented surrounding the retained hedgerow. A 10m ecological buffer should be retained along the stream.

Invertebrates

The hedgerows, with frequent blackthorn provide suitable habitat for black hairstreak.

This species is listed on Schedule 5 of the Wildlife & Countryside Act (1981). It is an offence to intentionally kill or injure individuals of these species.

If works are due to impact the hedgerows onsite, an egg search survey should be completed. Surveys can be undertaken between October and March, with the optimum time between early November to the end of December.

Recommendation 2

If works are due to impact hedgerows, carry out a black hairstreak egg search survey between October and March.

Amphibians

The field margins, hedgerows and scrub on Site provide suitable habitat for great crested newt. A pond is also present, which has previous records of great crested newt, as well as several ponds within 500m of the Site which also have the potential to support great crested newt in their aquatic phase. Impacts on great crested newt are possible through clearance of vegetation.

Great crested newts are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species (Amendment) Regulations 2017; (see Appendix 1).

Two options are available to address the risk of great crested newt:

Option 1 - An eDNA survey of the surrounding ponds is undertaken to determine the likelihood of great crested newt being present on site. eDNA surveys involve a fast and cost-effective method of determining great crested newt presence or absence in a waterbody by analysing water samples for newt DNA. eDNA surveys must be undertaken between 15 April and 30 June. If great crested newt are confirmed, a population estimate survey will be required and a Natural England Protected Species licence may be required.

Option 2 - Apply for the works to be undertaken under the Buckinghamshire Council's District Licence for great crested newt. Within the geographic area of the Vale of Aylesbury, this licensing scheme is run by the Nature Space Partnership. No further survey effort or timing constraints are associated with this approach.

Recommendation 3

Carry out eDNA surveys on all waterbodies within 500m of the Site. eDNA surveys must be carried out between 15 April and 30 June OR apply for works to be undertaken under the Buckinghamshire Council's District Licence for great crested newt.

Reptiles

Suitable habitat for reptiles is present on Site, including arable field margins, hedgerows and a small area of scrub. Impacts on reptiles are possible through clearance of vegetation.

All UK reptile species are protected under Schedule 5 of the Wildlife & Countryside Act (1981), and are listed as Species of Principal Importance under the NERC Act (2006). It is an offence to intentionally kill or injure individuals of these species (see Appendix 1 for more information).

Where impacts are predicted on reptile habitats (i.e., large scale removal of suitable habitat), survey work is recommended in order to determine the presence or absence of reptiles on Site and establish potential impacts on these species. These surveys should be carried out using artificial cover objects (on or under which reptiles can bask) in the active season which runs from March to October. The optimum survey times are in April, May and September. Seven visits should be conducted during suitable weather conditions according to guidance published by Froglife (1999).

Recommendation 4

A reptile presence/absence survey should be undertaken between April and September.

Birds

The arable fields, field margins, hedgerows and trees on Site provide suitable habitat to support breeding birds.

Following the Bird Survey Guidelines (Bird Survey & Assessment Group, 2022), bird surveys should always be conducted unless robust justification can be provided why they are not required; it is therefore recommended that a breeding bird survey is carried out at the Site, this encompasses six visits over the breeding bird season in order to identify the bird species that are using the site for breeding and whether any further mitigation will be necessary.

Recommendation 5

Undertake a six-visit breeding bird survey at the site to understand its use by protected and priority bird species.

All wild birds, their active nests and eggs are protected under The Wildlife and Countryside Act 1981 (as amended), which makes it an offence deliberately, or recklessly, to kill or injure any wild bird or damage or destroy any active birds' nest or eggs.

Scheduling vegetation removal works between the months of September and February inclusive (i.e. outside of the bird season) would avoid impacts on breeding birds.

Where vegetation clearance works are required during the breeding bird season (between the months of March and August inclusive), such works can only proceed following the completion of a nesting bird check undertaken by an experienced ornithologist. Any active birds' nest identified during this check must be protected from harm until the nesting attempt is complete. This will require a buffer to be left around the nest, the size of which will depend upon the species involved (as a general rule, this will be

10m in all directions around the nest). Any buffers established as a result of the initial nesting bird check must be subjected to a second check after the original nesting attempt is completed, before such areas can be removed during the breeding bird season.

Recommendation 6

Schedule vegetation and building clearance works between the months of September and February inclusive to avoid impacts on breeding birds. Where this timing is not feasible works should be preceded by a nesting bird check.

It is strongly recommended that any potential nesting bird habitat is cleared outside the breeding bird season in order to avoid potentially lengthy delays if nests are found during nesting bird checks.

Roosting bats

Six trees present on Site have been identified as having moderate potential to support roosting bats and four trees were considered to have low potential. Impacts to bat roosts can occur directly as well as indirectly, through increased noise, lighting, dust and vibration.

All bat species are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of Conservation of Habitats and Species Regulations 2017 (as amended). Bats are also Species of Principal Importance listed on Section 41 of the NERC Act (2006). It is an offence to deliberately disturb a bat, damage or destroy a bat roost, intentionally or recklessly disturb a bat at a roost, or obstruct access to a roost.

If the proposed development is predicted to impact the trees with moderate potential to support roosting bats, it is recommended aerial tree inspections are undertaken to further assess the potential of these features to support roosting bats, and inform any required mitigation or further survey effort. Aerial tree inspections can be undertaken at any time of year.

Recommendation 7

Undertake an aerial tree inspection of the trees identified with moderate bat roost potential (T1, T3, T4, T5, T6, T7, T9, T10).

According to best practice guidelines (Collins, 2023) trees with low suitability to support roosting bats do not require further survey effort. However, if any of the trees are due to be removed during construction, we recommend a precautionary approach is taken to tree felling (soft felling). These measures should be detailed within a Construction Ecological Management Plan.

Recommendation 8

Use a precautionary soft felling approach for trees with low suitability to support roosting bats (T2, T8).

Foraging/commuting bats

The habitats on Site may provide an important foraging and commuting location for local bat populations. Removal of key foraging habitat would cause disturbance to these populations as it would impair their ability to survive or breed by reducing prey availability.

It is recommended bat activity surveys are undertaken according to Best Practice Guidelines for sites with low suitability. These surveys should take the form of transect surveys and will require one survey visit per season (spring – April/May, summer – June/July/August and autumn – September/October). Static bat detector surveys should be conducted alongside these transect surveys.

Recommendation 9

Bat activity surveys should be completed to identify species using the Site, key foraging areas and commuting routes. These surveys should be completed in accordance with the methodology set out within the Bat Conservation Trust's Good Practice Guidelines (Collins, 2023).

Bat roosting behaviour, commuting and foraging activity can additionally be dramatically affected by artificial lighting (BCT, 2023). It is strongly recommended that any proposed exterior lighting is designed and managed appropriately to ensure that the area remains suitable for foraging bats. A sensitive lighting scheme should be developed to allow suitable roosting and foraging areas for bats. These measures should be secured through a planning condition.

Recommendation 10

Light pollution from any lighting should be minimised both during and after the construction phase. A sensitive lighting scheme should be developed and secured through a planning condition to allow for suitable roosting and foraging areas for bats within the site with maximum use of appropriate luminaries and directed lighting.

Badgers

Suitable foraging and sett building habitat is present onsite and records indicate presence in the surrounding area, however no evidence of badgers was noted during the site visit. Badger setts and badgers occupying a sett are protected under the Protection of Badgers Act 1992.

Badger activity can significantly change over a short period of time and so a pre-commencement check is recommended immediately prior to works beginning to ensure badger have not colonised the area where works will take place.

Recommendation 11

Undertake a pre-commencement badger check prior to any works.

Water vole

The riparian habitat and stream present on Site provide suitable habitat for water vole. Water vole are protected under Section 9 of Schedule 5 of Wildlife and Countryside Act 1981 (as amended), meaning that it is an offence to intentionally kill, injure or take water voles as well as to intentionally or recklessly damage or destroy any structure used for shelter or protection.

If it is not possible to keep a 10m buffer from the water features it is recommended that surveys are undertaken to check for any signs of water vole activity, such as faeces, latrines, feeding stations, burrows and footprints. These surveys should be undertaken according to best practice guidelines and will require two survey visits between mid-April and September inclusive. One of the survey visits should be undertaken in the first half of the season (mid-April to the end of June) and one in the second half of the season (July to September)

Recommendation 12

Undertake water vole surveys to establish if populations are present onsite. Two visits should be undertaken between mid-April and September.

Brown hare

Suitable habitat for brown hare is present at the site in the form of arable farmland; brown hare are a Species of Principal Importance (NERC Act 2006). Impacts to this species can be avoided by ensuring site works are undertaken outside of their breeding season which runs from February to August inclusive. If this is not feasible, the works area should be checked for forms containing leverets prior to works by a suitably qualified ecologist.

Recommendation 13

Avoid impacts to brown hare by scheduling site works outside of February-August; if this is not feasible, the works area must be checked by an ecologist prior to any works being undertaken.

In order to ensure there are no impacts to important habitats and species during the proposed works, and to ensure the proposed enhancements are effectively delivered, it is recommended that a Construction Ecological Management Plan is produced. This will cover activities relating to the construction/works period of the project and will detail how potential impacts to these features will be minimised and avoided.

Recommendation 14

Produce a Construction Ecological Management Plan to detail the protection and avoidance of protected species during site works.

In order to ensure the proposed enhancements are effectively delivered, a Landscape and Ecological Management Plan should be developed following completion of all baseline studies at Land off Hogshaw Road, Granborough.

Recommendation 15

Upon completion of all baseline studies develop a biodiversity enhancement and management plan at Land off Hogshaw Road, Granborough.

Opportunities for biodiversity enhancement

Following the issue of the National Planning Policy Framework (NPPF; see Appendix 1), all planning decisions should aim to maintain and enhance, restore or add to biodiversity and geological conservation interests. Ecological enhancements should aim to deliver biodiversity gains for the proposed development site.

The Vale of Aylesbury Local Plan (VALP) 2013-2033 includes Policy NE1 – Biodiversity and Geodiversity, which states:

"A net gain in biodiversity on minor and major developments will be sought by protecting, managing, enhancing and extending existing biodiversity resources, and by creating new biodiversity resources. These gains must be measurable using best practice in biodiversity and green infrastructure accounting and in accordance with any methodology (including a Biodiversity Impact Assessment) to be set out in the Buckinghamshire Biodiversity Accounting SPD."

It is recommended a Biodiversity Net Gain assessment is undertaken using the current DEFRA metric to ensure the development delivers a net gain in biodiversity. Where possible the net gain should be secured onsite, however if this is not feasible within the site design, sufficient compensation would need to be provided off-site.

Recommendation 16

Undertake a Biodiversity Net Gain assessment to inform the site design and ensure the development leads to a net gain in biodiversity.

Planting of native species or those with a known attraction or benefit to local wildlife is recommended in landscape proposals. This will help to increase native plant species diversity, provide more ecologically valuable habitats, and result in a greater diversity of other dependent taxonomic groups.

The enhancement of the hedgerows and including areas of species-rich grassland at the Site post-development will assist in increasing the biodiversity of the Site. The enhancement of the wetland habitats, including clearing some sections of scrub surrounding the pond to allow in additional light, as

well as additional marginal and bankside vegetation of the stream and pond, will further benefit the biodiversity of the Site.

Recommendation 17

It is recommended that native British species are incorporated within the planting scheme for the final landscaping design in order to enhance the overall value of the site for biodiversity, in line with the requirements of the NPPF.

Additionally, the creation of deadwood features at the site will be particularly valuable for invertebrates as a foraging resource, which in turn benefits a range of other species such as hedgehogs and reptiles. This could include rotting roots or tree stumps spread around various locations. The drilling of holes or cutting of notches can add even more value for invertebrates.

Recommendation 18

Incorporate simple biodiversity enhancement measures at the site, including the provision of deadwood features.

Enhanced opportunities for breeding birds should be incorporated into the design scheme. Recommendations for species-specific box provision will be made following further breeding bird surveys.

The wider landscape has the potential for use by foraging bats. With this in mind, enhanced opportunities for roosting bats should also be provided at the site through installation of bat boxes. Recommendations for these will be made following the recommended activity surveys.

Recommendation 19

Provisions should be made for breeding birds and roosting bats at the site post-development, with details to follow the further survey effort.

Summary of recommendations

Table 5 below summarises the recommendations made within this report, and specifies the stage of the development at which action is required. Colour coding of cells within the table is as follows:

Key:

No action required for this species group at this stage

Action required (see notes for details)

Level of action required will be determined following the further survey work

Table 5: Summary of recommendations at Land off Hogshaw Road, Granborough

Species	Pre-planning action required?	Pre-construction action required?	Construction phase mitigation required?	Enhancements proposed?
Habitats	Retain hedgerows, trees and pond. Maintain buffer around hedgerows, pond and stream. Native planting	CEMP	Install protective fencing around retained habitats	Native planting
Invertebrates	Further survey work if impacts on hedgerow predicted	TBC	TBC	TBC
Bats	Further survey work	TBC	TBC	TBC

Species	Pre-planning action required?	Pre-construction action required?	Construction phase mitigation required?	Enhancements proposed?
Reptiles	Further survey work	TBC	TBC	TBC
Birds	Further survey work	TBC	TBC	TBC
Badgers	No	Pre-commencement check	TBC	TBC
Water voles	Further survey work	TBC	TBC	TBC
Brown hare	No	Timing of works OR pre-commencement check	TBC	TBC

Table 6: Summary of further surveys recommended at Land off Hogshaw Road, Granborough

Species/species group	Purpose of survey	Survey period (inclusive unless otherwise stated)
Invertebrates	Black hairstreak egg search to confirm presence/absence (if required)	October-March
Great crested newt	eDNA survey to confirm presence/absence in waterbodies within 500m OR	15 April – 30 June
	Apply for works to be undertaken under the Buckinghamshire Council's District Licence for great crested newt.	Jan-Dec
Reptiles	Confirm presence/absence	Apr, May, Sep

Species/species group	Purpose of survey	Survey period (inclusive unless otherwise stated)
Bats (activity transects)	Understand species assemblages and identify key foraging areas or commuting routes	April-Oct
Bats (daytime roost inspection)	Assess potential features for roosting bats	Jan-Dec
Birds (all species)	Assess the assemblage of breeding birds present.	Mar-Jul
Water vole	Confirm presence/absence	March-June and July-September

6. CONCLUSIONS

The Preliminary Ecological Appraisal undertaken at Land off Hogshaw Road, Granborough found the Site to comprise arable fields surrounded by grassland and hedgerows. There is a pond present, and a stream and line of trees runs along the western boundary of the Site. Three fields to the north comprise modified grassland.

The habitats present have the potential to support several protected and notable species, and further survey work has been recommended for great crested newt, reptiles, breeding birds, bats, and water vole. Sensitive timing of works and a pre-commencement check have also been recommended to avoid impacts on brown hare, nesting birds and badger respectively.

Development at the Site provides an opportunity for biodiversity enhancement. In line with Local Policy, the development should deliver a net gain in biodiversity, assessed using the current DEFRA metric. Recommended enhancements include providing dead wood features for invertebrates and the planting of native species, to include the creation of species-rich grasslands. The hedgerows should be enhanced, as well as enhancing the wetland habitats with the planting of additional marginal and bankside vegetation. Recommendations for bird and bat provisions will be provided following the recommended survey effort.

These ecological enhancements offer an opportunity to provide habitats for wildlife post-development and will also contribute to ensuring a sustainable development that helps to achieve both local and national biodiversity targets.

7. REFERENCES

BCT (2023) *Bats and artificial lighting in the UK*. Bats and the Built Environment series, Guidance Note **8** Bat Conservation Trust (BCT)

British Ornithologists' Union (2017). *The British List: A Checklist of Birds of Britain (9th edition).* Ibis **160**: 190-240.

British Standards Institution (2013) *British Standard 42020:2013, Biodiversity – Code of practice for planning and development.* British Standards Institution: London.

Buckinghamshire Council (2021) *Vale of Aylesbury Local Plan (VALP) 2013-2033 Adopted Plan.* Buckinghamshire Council: Aylesbury

Butcher, B., Carey, P., Edmonds, R., Norton, L., & Treweek, J (2020) *The UK Habitat Classification User Manual Version 1.1* http://www.ukhab/org/

CIEEM (2022) *Code of Professional Conduct*. Chartered Institute of Ecology and Environmental Management (CIEEM), Winchester.

CIEEM (2017) *Guidelines for Preliminary Ecological Appraisal, 2nd edition*. Chartered Institute of Ecology and Environmental Management (CIEEM), Winchester.

Natural England (2019). *Natural England's Impact Risk Zones for Sites of Special Scientific Interest: User Guidance*. Available at https://data.gov.uk/dataset/5ae2af0c-1363-4d40-9d1a-e5a1381449f8/sssi-impact-risk-zones-england

Stace, C. (2019) *New flora of the British Isles* (4th ed). C&M Floristics, Stowmarket

Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I (2021). *The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain*. British Birds 114: 723-747. Available online at: https://britishbirds.co.uk/content/status-our-bird-populations.

8. APPENDICES

8.1. Appendix 1: Relevant wildlife legislation and planning policy

Please note that the following is not an exhaustive list, and is solely intended to cover the most relevant legislation pertaining to species commonly associated with development sites.

Subject	Legislation (England)	Relevant prohibited actions
Amphibians		
Great crested newt *Triturus cristatus* Natterjack toad *Epidalea calamita*	Schedule 2 of Conservation of Habitats and Species Regulations (2017) Schedule 5 of The Wildlife and Countryside Act 1981 (as amended)	Deliberately capture or kill, or intentionally injure; Deliberately disturb or recklessly disturb them in a place used for shelter or protection; Damage or destroy a breeding site or resting place; Intentionally or recklessly damage, destroy or obstruct access to a place used for shelter or protection; and Possess an individual, or any part of it, unless acquired lawfully.
Reptiles		
Common lizard *Zootoca vivipara* Adder *Vipera berus* Slow-worm *Anguis fragilis* Grass snake *Natrix helvetica helvetica*	Part of Sub-section 9(1) of Schedule 5 of The Wildlife and Countryside Act 1981 (as amended)	Intentionally kill or injure individuals of these species (Section 9(1)).

Subject	Legislation (England)	Relevant prohibited actions
Sand lizard *Lacerta agilis* Smooth snake *Coronella austriaca*	Full protection under Section 9 of Schedule 5 of The Wildlife and Countryside Act 1981 (as amended)	Deliberately or intentionally kill, capture (take) or intentionally injure; Deliberately disturb; Deliberately take or destroy eggs; Damage or destroy a breeding site or resting place or intentionally damage a place used for shelter; or Intentionally obstruct access to a place used for shelter.
Birds		
All wild birds	Wildlife and Countryside Act 1981 (as amended)	Intentionally kill, injure, or take any wild bird or their eggs or nests.
'Schedule 1' birds	Schedule 1 of the Wildlife and Countryside Act 1981 (as amended)	Disturb any wild bird listed on Schedule 1 whilst it is building a nest or is in, on, or near a nest containing eggs or young; or Disturb the dependent young of any wild bird listed on Schedule 1.
Mammals		
Bats (all UK species)	Schedule 2 of Conservation of Habitats and Species Regulations (2017)	Deliberately capture, injure or kill a bat; Deliberately disturb a bat (disturbance is defined as an action which is likely to: (i) Impair their ability to survive, to breed or reproduce, or to rear or nurture their young; (ii) Impair their ability to hibernate or migrate; or (iii) Affect significantly the local

Subject	Legislation (England)	Relevant prohibited actions
	Schedule 5 of Wildlife and Countryside Act 1981 (as amended)	distribution or abundance of the species); Damage or destroy a bat roost; Intentionally or recklessly disturb a bat at a roost; or Intentionally or recklessly obstruct access to a roost. In this interpretation, a bat roost is "*any structure or place which any wild [bat]...uses for shelter or protection*". Legal opinion is that the roost is protected whether or not the bats are present at the time.
Badger *Meles meles*	Protection of Badgers Act 1992	Under Section 3 of the Act: Damage a sett or any part of it; Destroy a sett; Obstruct access to, or any entrance of, a sett; or Disturb a badger when it is occupying a sett. A sett is defined legally as any structure or place which displays signs indicating current use by a badger (Natural England 2007).
Hazel dormouse *Muscardinus avellanarius*	Schedule 2 of Conservation of Habitats and Species Regulations (2017)	Intentionally or deliberately capture or kill, or intentionally injure;

Subject	Legislation (England)	Relevant prohibited actions
	Schedule 5 of Wildlife and Countryside Act 1981 (as amended)	Deliberately disturb or intentionally or recklessly disturb them in a place used for shelter or protection; Damage or destroy a breeding site or resting place; Intentionally or recklessly damage, destroy or obstruct access to a place used for shelter or protection; and Possess an individual, or any part of it, unless acquired lawfully.
Otter *Lutra lutra*	Schedule 2 of Conservation of Habitats and Species Regulations (2017) Section 9(4)(b) and (c) of Schedule 5 of Wildlife and Countryside Act 1981 (as amended)	Deliberately capture, injure or kill an otter; Deliberately disturb an otter in such a way as to be likely to significantly affect the local distribution or abundance of otters or the ability of any significant group of otters to survive, breed, rear or nurture their young; Intentionally or recklessly disturb any otter whilst it is occupying a holt; Damage or destroy or intentionally or recklessly obstruct access to an otter holt.
Water vole *Arvicola amphibius*	Section 9 of Schedule 5 of Wildlife and Countryside Act 1981 (as amended)	Intentionally kill, injure or take water voles; Possess or control live or dead water voles or derivatives; Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection; or Intentionally or recklessly disturb water voles whilst occupying a structure or place used for that purpose.

Subject	Legislation (England)	Relevant prohibited actions
Crustaceans		
White-clawed crayfish *Austropotamobius pallipes*	Section 9(1) of Schedule 5 of Wildlife and Countryside Act 1981 (as amended)	Intentionally kill, injure or take white-clawed crayfish by any method.

The Environment Act 2021

The Environment Act 2021, sets out key legislation after the UK's exit from the European Union. With the largest changes to green regulations in decades, the Act includes the establishment of an Office for Environmental Protection, targets on air pollution, water quality and biodiversity, and the enshrinement of the 25 Year Environment Plan in law. The Act also makes provisions for a mandatory 10% net gain in biodiversity for all developments covered by the Town and Country Planning Act and it also introduces a statutory requirement for Local Nature Recovery Strategies.

Full legislation text available at: https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted

The Conservation of Habitats and Species Regulations 2017 (as amended)

Full legislation text available at: The Conservation of Habitats and Species Regulations 2017 (as amended) (legislation.gov.uk)

The Wildlife and Countryside Act 1981 (as amended)

Full legislation text available at: http://www.legislation.gov.uk/ukpga/1981/69/contents.

Countryside and Rights of Way Act 2000

Full legislation text available at: http://www.legislation.gov.uk/ukpga/2000/37/contents

Protection of Badgers Act 1992

Full legislation text available at: http://www.legislation.gov.uk/ukpga/1992/51/contents

Section 41 of Natural Environments and Rural Communities (NERC) Act 2006

Full legislation text available at: http://www.legislation.gov.uk/ukpga/2006/16/section/41

Many of the species above, along with a host of others not afforded additional protection, are listed on Section 41 of the NERC Act 2006.

Section 41 (S41) of the Natural Environment and Rural Communities (NERC Act 2006) requires the Secretary of State to publish a list of habitats and species that are of principal importance for the conservation of biodiversity in England. The list (including 56 habitats and 943 species) has been drawn up in consultation with Natural England and draws upon the UK Biodiversity Action Plan (BAP) List of Priority Species and Habitats.

The S41 list should be used to guide decision-makers such as local and regional authorities to have regard to the conservation of biodiversity in the exercise of their normal functions – as required under Section 40 of the NERC Act 2006. The duty applies to all local authorities and extends beyond just conserving what is already there, to carrying out, supporting and requiring actions that may also restore or enhance biodiversity.

Schedule 9 of Wildlife and Countryside Act 1981 (as amended)

In addition to affording protection to some species, The Wildlife and Countryside Act 1981 (as amended) also names species which are considered invasive and require control. Section 14 of the Act prohibits the introduction into the wild of any animal of a kind which is not ordinarily resident in, and is not a regular visitor to, Great Britain in a wild state, or any species of animal or plant listed in Schedule 9 to the Act. In the main, Schedule 9 lists non-native species that are already established in the wild, but which continue to pose a conservation threat to native biodiversity and habitats, such that further releases should be regulated.

Wild Mammals (Protection) Act 1996

Full legislation text is available at: http://www.legislation.gov.uk/ukpga/1996/3/contents

Under this legislation it is an offence to cause unnecessary suffering to wild mammals, including by crushing and asphyxiation. It largely deals with issues of animal welfare, and covers all non-domestic mammals including commonly encountered mammals on development sites such as rabbits, foxes and field voles.

Birds of Conservation Concern (BoCC)

This is a quantitative assessment of the status of populations of bird species which regularly occur in the UK, undertaken by the UK's leading bird conservation organisations. It assesses a total of 245 species against a set of objective criteria to place each on one of three lists – Green, Amber and Red – indicating an increasing level of conservation concern. There are currently 70 species on the Red list, 103 on the Amber list and 72 on the Green list. The classifications described have no statutory implications, and are used merely as a tool for assessing scarcity and conservation value of a given species.

National Planning Policy Framework (NPPF)

Full text is available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2

The revised NPPF was updated on 5 September 2023 setting out the Government's planning policies for England and the process by which these should be applied. The policies within the NPPF are a material consideration in the planning process. The key principle of the NPPF is a presumption in favour

of sustainable development, with sustainable development defined as a balance between economic, social and environmental needs.

Policies 174 to 188 of the NPPF address conserving and enhancing the natural environment, stating that the planning system should:

> Contribute to and enhance the natural and local environment by protecting and enhancing valued landscapes;
> Recognise the wider benefits of ecosystem services; and
> Minimise impacts on biodiversity and provide net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity.

Furthermore, there is a focus on re-use of existing brownfield sites or sites of low environmental value as a priority, and discouraging development in National Parks, Sites of Specific Scientific Interest, the Broads or Areas of Outstanding Natural Beauty other than in exceptional circumstances.

Where possible, planning policies should also

"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".

8.2. Appendix 2: UK Habitat Classification species list

Please note that these lists are intended to be incidental records and do not constitute a full botanical survey of the site. Relative abundance is given using the DAFOR scale. Please see Table 2 for details.

Cereal crops c1c

Common Name	Systematic Name	Relative abundance
Wheat	*Triticum aestivum*	D
Barley	*Hordeum vulgare.*	D

Temporary grass and clover leys c1b

Common Name	Systematic Name	Relative abundance
Perennial rye-grass	*Lolium perenne*	D

Other neutral grassland g3c

Common Name	Systematic Name	Relative abundance
False oat-grass	*Arrhenatherum elatius*	D
Creeping bent	*Agrostis stolonifera*	A
Common nettle	*Urtica dioica*	F
Broad-leaved dock	*Rumex obtusifolius*	O
Cow parsley	*Anthriscus sylvestris*	O
Hogweed	*Heracleum sphondylium*	O
Meadow foxtail	*Alopecurus pratensis*	O
Soft-brome	*Bromus hordeaceus*	O
Creeping buttercup	*Ranunculus repens*	R
Creeping thistle	*Cirsium arvense*	R
Hedge woundwort	*Stachys sylvatica*	R
Large bindweed	*Calystegia silvatica*	R

Hedgerow (priority habitat) h2a

Common Name	Systematic Name	Relative abundance
Hawthorn	*Crataegus monogyna*	A

Common Name	Systematic Name	Relative abundance
Ash	*Fraxinus excelsior*	F
Blackthorn	*Prunus spinosa*	F
English elm	*Ulmus procera*	F
Pedunculate oak	*Quercus robur*	F
Dog rose	*Rosa canina*	O
Field maple	*Acer campestre*	R

Mixed scrub h3h

Common Name	Systematic Name	Relative abundance
Bramble sp.	*Rubus fruticosus agg.*	D
Cock's-foot	*Dactylis glomerata*	F
Common nettle	*Urtica dioica*	F
White poplar	*Populus alba*	F
Ash	*Fraxinus excelsior*	O

Modified grassland (g4)

Common Name	Systematic Name	Relative abundance
Perennial rye-grass	*Lolium perenne*	D
Creeping buttercup	*Ranunculus repens*	O
Cock’s-foot	*Dactylis glomerata*	O
Creeping bent	*Agrostis capillaris*	O
White clover	*Trifolium repens*	O
Dandelion	*Taraxacum officinale*	O
Meadow buttercup	*Ranunculus acris*	R
Red clover	*Trifolium pratense*	R
Common chickweed	*Stellaria media*	R

Other rivers and streams r2b

Common Name	Systematic Name	Relative abundance
Sweet reed-grass	*Glyceria maxima*	O

Line of trees w1g6

Common Name	Systematic Name	Relative abundance
Blackthorn	*Prunus spinosa*	A
Ash	*Fraxinus excelsior*	F
Crack willow	*Salix fragilis*	F
Field maple	*Acer campestre*	O
White poplar	*Populus alba*	O

8.3. Appendix 3: Site photographs

Photograph 1: Cereal crops c1c

Photograph 2: Temporary grass and clover leys c1b

Photograph 3: Other neutral grassland g3c

Photograph 4: Hedgerow (priority habitat) h2a

Photograph 5: Mixed scrub h3h

Photograph 6: Modified grassland g4

Photograph 7: Ponds – Eutrophic standing water r1a

Photograph 8: Other rivers and streams r2b

Photograph 9: Line of trees w1g6

Trees with moderate bat potential

T1

T3

T4

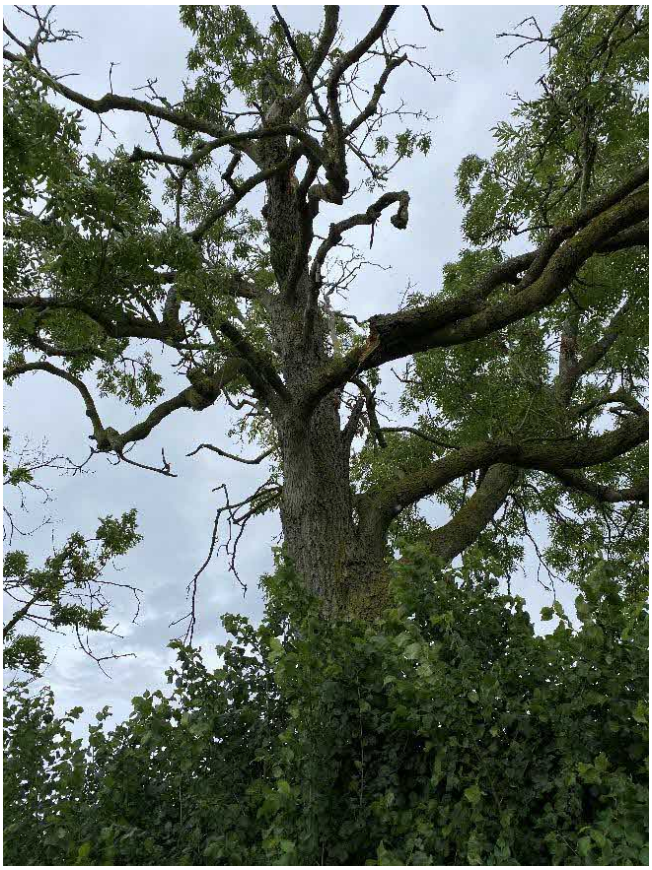
T5

T6

T7

T9

T10



Trees with low bat potential

T2

T8

MKA

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