



Preliminary Ecological Appraisal

Land at Hedges Farm, Worminghall Road, Oakley, HP18 9QY

Elmtree Enterprises Ltd

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Industry Guidelines and Standards

This report has been written with due consideration to:

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

Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.

Chartered Institute of Ecology and Environmental Management (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.

Chartered Institute of Ecology and Environmental Management (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.

British Standard 42020 (2013). Biodiversity – Code of Practice for Planning and Development.

British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.

Proportionality

The work involved in preparing and implementing all ecological surveys, impact assessments and measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. Consequently, the decision-maker should only request supporting information and conservation measures that are relevant, necessary and material to the application in question. Similarly, the decision-maker and their consultees should ensure that any comments and advice made over an application are also proportionate.

The desk studies and field surveys undertaken to provide a Preliminary Ecological Appraisal (PEA) might in some cases be all that is necessary.

(BS 42020, 2013)

Executive Summary

Arbtech Consulting Limited was instructed by by Elmtree Enterprises Ltd to undertake a Preliminary Ecological Appraisal (PEA) at Land at Hedges Farm, Worminghall Road, Oakley, HP18 9QY (hereafter referred to as “the site”). The survey was required to inform a planning application for a housing development (hereafter referred to as “the proposed development”).

The following is work you will need to commission to obtain planning permission and to comply with legislation. Further information, along with opportunities for biodiversity enhancement, are outlined in Table 6 of this report.

Feature	Survey Results Summary	Impact Assessment	Recommendations
Habitats and flora	<p>There are no notable habitats within the site but two habitats are present within 2km of the site, the closest being deciduous woodland located 500m from the site.</p> <p>The site contains semi-improved grassland which is common and widespread and have low ecological value. The site also has species-poor hedgerow boundaries which will have some limited value for species. However these hedgerows are small, heavily flailed and in poor condition, making them a good target for ecological enhancement.</p> <p>No protected or notable plant species were recorded during the survey.</p>	<p>No impacts to any notable habitats are anticipated due to the small scale and distance of the proposed development from such habitats as well as the urban location of the site with surrounding physical barriers.</p> <p>The proposed development will result in the loss of areas of semi-improved grassland. This could result in a net loss in biodiversity at the site.</p>	<p>Best practice measures to minimise the possibility of pollution must be implemented during construction.</p> <p>Retained trees/woodland/hedgerows should be protected in line with the measures outlined in the British Standard "Trees in Relation to Design, Demolition and Construction to Construction - Recommendations" (BS 5837) (2012).</p> <p>To compensate for the proposed habitat losses at the site, the following habitat creation measures should be incorporated:</p> <ul style="list-style-type: none"> Native tree planting Native hedgerow planting Enhancement of existing hedgerows New wildflower areas
Amphibians	<p>The site contains semi-improved grassland which is kept to a low sward by grazing, which in turn severely limits its ability to provide habitat to newts or other amphibians. There are several ponds within 500m of the site, but these have poor connectivity to the site due to intervening fencing, urban roads and the village of Oakley itself. Based on these factors, it is considered that there is a low likelihood of GCN or other amphibians being present on site.</p>	<p>No impacts are anticipated to be likely on great crested newts or other common amphibians, as a result of the proposed development as this species is considered likely to be absent from the site due to the low quality of the grass and habitats present. However a precautionary working method is recommended to ensure that the likelihood of impacts is further reduced.</p>	<p>Owing to the nature of the proposed development and the low potential for impacts to great crested newts, further surveys are considered to be disproportionate. A precautionary working method will be implemented for common amphibians during construction, including measures specified in Table 6.</p>
Reptiles	<p>The site contains species-poor hedgerows and semi-improved grassland which will provided limited basking and foraging opportunities for reptiles. Reptiles are</p>	<p>Areas of grassland will be removed during construction. The loss of such habitats is likely to be inconsequential to local reptile populations owing to their low value and</p>	<p>Owing to the nature of the proposed development and the low potential for impacts to reptiles, further surveys are considered to be disproportionate. A</p>

	therefore considered to have a low likelihood of being encountered on site.	the presence of more extensive habitat locally. However, site clearance could result in the death or injury of reptiles, if present.	precautionary working method will be implemented during construction, including measures specified in Table 6.
Foraging and commuting bats	The grassland on site will provide extremely limited foraging opportunities for bats. The hedgerows on the site boundaries could be used by local bat populations for foraging and commuting. These could also be used by bats dispersing from nearby roosts outside of the site.	<p>The proposed development will result in the loss of areas of grassland, but no direct impacts upon the hedgerows. Given the low value of the grassland and the presence of more extensive areas of foraging and commuting habitat in the locality, this is likely to be inconsequential for bats.</p> <p>The proposed development will include the use of lighting which could spill on to bat roosting, foraging or commuting habitat and deter bats from using these areas.</p>	A low impact lighting strategy will be adopted for the site during and post-development, which will include measures specified in Table 6.
Hedgehog	The site contains some limited hedgehog habitat such as grassland and hedgerows, and hedgehogs could access the site through the hedgerow boundaries from nearby gardens and arable fields. Therefore it is considered moderately likely that hedgehogs might be encountered on site.	Areas of grassland will be removed during construction. The loss of such habitats is likely to be inconsequential to local hedgehog populations owing to their low value and the presence of more extensive habitat locally. However, construction activities could result in the death or injury of hedgehogs, if present.	A precautionary working method will be implemented during construction, including Measures specified in Table 6.

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1.0 Introduction and Context

1.1 Background

Arbtech Consulting Limited was instructed by Elmtree Enterprises Ltd to undertake a Preliminary Ecological Appraisal (PEA) at Land at Hedges Farm, Worminghall Road, Oakley, HP18 9QY (hereafter referred to as “the site”). The survey was required to inform a planning application for a housing development (hereafter referred to as “the proposed development”). A plan showing the proposed development will be provided in Appendix 1 when available.

The aim of the PEA was to obtain data on existing ecological conditions, and to conduct a preliminary assessment of the likely significance of ecological impacts on the proposed development. No previous ecology reports have been produced for this site by Arbtech Consulting Ltd or, to the author’s knowledge, by any other consultancy.

1.2 Site Location and Landscape Context

The site is located at National Grid Reference SP 63864 11777 and has an area of approximately 0.9ha comprising a farmyard with farm buildings (outside of the development area covered by this report) and an adjacent plot of farmland with fenced and hedgerow boundaries. It is surrounded by the village of Oakley which stretches to the north, and beyond that the landscape is dominated by large arable fields with small hedgerow margins. The M40 runs approximately 1km to the west, which will prove a major barrier to connectivity (in particular to any species using Shabbington woods to the south-east). Shabbington woods and Boarstall Wood represent large areas of deciduous woodland within the local environment which are likely to be important to protected species. Former RAF Oakley lies 1km to the south. A site location plan is provided in Appendix 2.

1.3 Scope of the Report

This report describes the baseline ecological conditions at the site, evaluates habitats within the survey area in the context of the wider environment and describes the suitability of those habitats for notable or protected species. It identifies possible ecological constraints as a result of the proposed development and summarises the requirements for further surveys and mitigation measures to inform subsequent mitigation proposals, achieve planning or other statutory consent and to comply with wildlife legislation.

To achieve this, the following steps have been taken:

- A desk study has been carried out.

- A field survey has been undertaken to record baseline information on the site and surrounding area including habitat types and their suitability for notable or protected species.

- Invasive plant and animal species (such as those listed on Schedule 9 of the Wildlife & Countryside Act) have been identified.

- Potential impacts on features of value, as a result of the proposed development, have been identified.

- Recommendations for further surveys and mitigation have been made.

- Opportunities for the enhancement of the site for biodiversity have been set out.

2.0 Methodology

2.1 Desk Study

The desk study included a review of the magic.gov.uk database for statutory designated sites within a 2km radius of the site. Landscape value and the presence of notable habitats as well as granted European Protected Species Licence (EPSL) and notable species records held on magic.gov.uk database has also been considered where these are within influencing distance of the site.

Existing biological records including notable species and non-statutory designated sites within a 2km radius were obtained from Thames Valley Environmental Records Centre.

2.2 Field Survey

The survey was undertaken by Dr James Fielding PhD BA (Hons), Consultant Ecologist (Natural England Bat Licence Number 2022-10412-CL17-BAT) on 28/02/2023.

An extended habitat survey was undertaken, following the methodology set out in UK Habitat Classification User Manual (UK Habitat Classification Working Group, 2018). All land parcels are described and mapped and, where appropriate, target notes provide supplementary information on habitat conditions, features too small to map to scale, species composition, structure and management. Botanical species lists were compiled with reference to the DAFOR scale (D = Dominant; A = Abundant, F = Frequent, O = Occasional, R = Rare).

During the survey, habitats were assessed for their suitability to support protected species, and field signs indicating their presence recorded. The assessment takes into consideration the findings of the desk study, the habitat conditions on site and in the context of the surrounding landscape, and the ecology of the protected species.

2.3 Limitations

It should be noted that whilst every effort has been made to describe the baseline conditions within the survey area, and evaluate these features, this report does not provide a complete characterisation of the site. This assessment provides a preliminary view of the likelihood of protected species being present. This is based on suitability of the habitats on the site and in the wider landscape and the ecology and biology of species as currently understood.

3.0 Results and Evaluation

3.1 Designated Sites

Details of any statutory designated sites within a 2km radius of the site, including their reasons for notification, are provided in Table 1 below.

The site lies within the impact risk zone for Shabbington Woods Complex Site of Special Scientific Interest. The proposed development type is not listed as a possible high risk with regard to this designation. Delete if not relevant

Table 1: Statutory and non-statutory designated sites within 2km radius of the site

Designated site name	Distance from site	Reasons for notification from Natural England
Shabbington Woods Complex Site of Special Scientific Interest (SSSI)	1km to the southwest	The special interest of the site lies mainly in the richness of the insect fauna associated with compartment edges and the system of woodland rides. Also included in the site are two unimproved neutral meadows with ridge and furrow topography and several shallow ponds. The vertebrates of the site include all three British species of newt which breed in the scattered ponds, grass snakes, slow worms and fallow and muntjac deer. A large number of bird species are recorded from the wood including woodcock, green and great-spotted woodpeckers, tree pipit, grasshopper warbler, spotted flycatcher and crossbills.
Non-statutory sites	Distance from site	Reasons for notification provided by BMERC
Bernwood Biodiversity Opportunity Area	~300m west	Not provided by BMERC.
Brill and Muswell Hill Biodiversity Opportunity Area	~950m north	Not provided by BMERC.
Pond near Oakley Common Biological Notification Site	~1250 west	Not provided by BMERC.
Boarstal Wood Local Wildlife Site	~1300m north	Not provided by BMERC.
Burrows Wildlife Trust Reserve	~1550m west	Not provided by BMERC.
Ixhill Meadow Biological Notification Site	~1650m south east	Not provided by BMERC.
Catsbrain Farm Local Wildlife Site	~1700m south	Not provided by BMERC.
Worminghall Brook Biological Notification Site	~1900m north east	Not provided by BMERC.

3.2 Field Survey Results

The results of the field survey are illustrated in Appendix 3. The weather conditions recorded at the time of the survey are shown in Table 2.

Table 2: Weather conditions during the survey

Date:	28/02/2023
Temperature	4°C
Humidity	51%
Cloud Cover	0%
Wind	1mph
Rain	None

Habitats and Flora

The following habitats are present within and adjacent to the site:

h2 hedgerow

g3c Modified grassland

A description and photograph of each habitat is provided in Table 3.

No protected or non-native invasive plant species (as listed under Schedules 8 or 9 of the Wildlife and Countryside Act 1981) were identified on the site. However, due to the time of year in which the survey was undertaken it is possible that such species would not be visible.

Table 3: Description and photographs of habitats within and adjacent to the site

Habitat type	Habitat description	Photograph
<p>g3c Other neutral grassland</p> <ul style="list-style-type: none"> - 1010 agricultural farmland - 60 sheep grazed - 69 fence 	<p>The site contains a large field to the west and a smaller plot to the east, consisting of a field of semi-improved neutral grassland. This grass is subject to intensive grazing by sheep, resulting in a sward of approximately 5cm in length. Species composition is poor, comprising predominantly perennial ryegrass, Yorkshire fog and meadow grass species with occasional broad-leaved herbs such as curled dock, dandelion, creeping thistle and daisy.</p> <p>The boundaries of the large field consist of hedgerows to the north, west and south, and a wooden and metal fence separating the field from the main farmyard buildings to the south-east.</p>	 <p>28 Feb 2023 10:57:34</p> <p>28 Feb 2023 11:36:39</p>

- h2 Hedgerow (other)
- 75 active management
 - 81 flailed hedgerow

The site boundaries consist of species-poor, heavily flailed hedgerows. Dominant species include blackthorn and hawthorn, with some bramble and common ivy.



Fauna

An assessment of the suitability of the site for protected or notable species is provided in Table 4.

Table 4: Assessment of the suitability of the site for protected or notable species

Species	Assessment of suitability	Biological records data
Amphibians	<p>A review of the MAGIC database returned no granted EPSL, class licence or pond survey records for great crested newts within 500m of the site. Great crested newts exist in metapopulations and are known to utilise ponds and their connecting terrestrial habitat during their life cycle; great crested newts are typically found within terrestrial habitats up to 500m from breeding ponds (Langton et al. 2001). A review of aerial imagery indicates the presence of one pond to the west of the site, separated by multiple fences. One pond is present to the east, separated by a small stream, and two old fish ponds are present to the north of the site. One of these old fish ponds tested positive for great crested newts in 2017, and is located 360m from the site. However this pond is separated from the site by the main buildings and roads of Oakley, which will prove a significant barrier for great crested newts to disperse to the site.</p> <p>The grassland on the site could provide extremely limited opportunities for amphibians to forage but there are no features on the site which could be utilised for shelter or hibernation, and the short sward of the grass will result in a lack of cover from predation which will make the grassland unsuitable for newts and other amphibians.</p>	<p>A review of the MAGIC database returned no granted EPSL, class licence or pond survey records for great crested newts within 500m of the site.</p> <p>The biological records data contained 4 records of great crested newts within 2km, of which only 1 record is within 500m: a positive eDNA test on a water feature 360m north-east of the site from 2017.</p>
Reptiles	<p>The site is adjacent to the village of Oakley and to agricultural land, which could offer some limited connectivity to reptiles in the local area. The grassland on site itself could offer some very limited basking opportunities for reptiles, however the short grazed sward results in a lack of shelter which will limit the suitability and likelihood of encountering reptiles.</p>	<p>There are no granted EPSLs and no records of reptiles within 2km of the site (although BMERC has provided 1 record of slow worms 2.4km from the site).</p>
Bats	<p>The site contains semi-improved grassland which will provide extremely limited foraging for bats. The hedgerows along the site boundaries will act as useful commuting routes for bats in the local area. Evidence of bats was found within several of the agricultural buildings to the south of the site, and so bats commuting to and from these buildings are likely to be encountered on site.</p>	<p>There are 36 records of bats within the local area, including 15 records of brown long eared bats, 13 records of common pipistrelles, 4 records of Natter's bat, 2 records of serotines and 2 records of soprano pipistrelles. However none of the records present are recent records. The closest record is ~50m to the north of the site.</p>

Hazel Dormouse	The site lacks any significant woodland or hazel trees which could provide shelter or habitat to hazel dormice. The heavily flailed and species-poor hedgerows at the site boundaries lack the size and complex 3d structure typically suitable for commuting hazel dormice, and are assessed to be unlikely to contain or support dormice.	There are no granted EPSLs or records of dormice within 2km of the site.
Hedgehog	The short sward of the grassland on site reduces its suitability for hedgehogs. Hedgehogs could access the site from adjacent farmlands and gardens, and could make use of the hedgerows and grassland. It is considered moderately likely that hedgehogs will be encountered on site.	There are 4 records of hedgehogs within 2km of the site, with the nearest record being 1800m to the north.
Riparian Mammals (Water voles, Otters and Beavers.	The site is not adjacent to any watercourses, and it is considered to be highly unlikely that riparian mammals will be encountered on site.	There are no records of otters or water voles within 2km of the site.
Birds	The site contains semi-improved grassland and species-poor hedgerows, which could offer some limited foraging habitat to nearby bird species. Birds could also build nests in the hedgerows along the site boundaries.	There are over 125 records of birds within 2km of the site, including species such as barn owl, curlew, fieldfare and black-headed gull.
Invertebrates	The site contains grazed semi-improved grassland and species-poor hedgerows which will support a limited assemblage of invertebrates.	There are 716 records of invertebrates, predominantly butterflies and moths, located within 2km of the site. These records are dispersed over the agricultural landscape but with particular concentrations in and around Boarstall woods to the north-west and Shabbington woods to the south-west.

4.0 Conclusions, Impacts and Recommendations

Taking the desk study and field survey results into account, Table 5 presents an evaluation of the ecological value of the site and also details any ecological constraints identified in relation to the proposed development which will comprise a housing development.

Table 5: Evaluation of the site and any ecological constraints

Feature	Survey Results Summary	Impact Assessment	Recommendations	Biodiversity Enhancement Opportunities ¹
Designated sites	<p>There is 1 statutory site within 2km of the site, the closest being Shabbington Woods Complex (SSSI) located 1km from the site.</p> <p>The site lies within the impact risk zone for Shabbington Woods Complex SSSI but the proposed development type is not listed as high risk with regards to this designation.</p> <p>There are 8 non-statutory sites within 2km of the site, the closest being Bernwood biodiversity opportunity area located 300m west from the site.</p>	No impacts to designated sites are anticipated due to the small scale and distance of the proposed development from such sites (where known) as well as the urban location of the site with surrounding physical barriers.	None.	None.
Habitats and flora	There are no notable habitats within the site but two habitats are present within 2km of the site, the closest being deciduous woodland located 500m from the site.	No impacts to any notable habitats are anticipated due to the small scale and distance of the proposed development from such habitats as well as the urban location of the site with surrounding physical barriers.	<p>Best practice measures to minimise the possibility of pollution must be implemented during construction.</p> <p>Retained trees/woodland/hedgerows should be protected in line with the measures outlined in the British Standard "Trees in Relation to Design,</p>	The following habitat creation and enhancement opportunities could be incorporated into the proposed development:

¹ The Local Planning Authority has a duty to ask for enhancements under the NPPF (2021).

	<p>The site contains semi-improved grassland which is common and widespread and have low ecological value. The site also has species-poor hedgerow boundaries which will have some limited value for species. However these hedgerows are small, heavily flailed and in poor condition, making them a good target for ecological enhancement.</p> <p>No protected or notable plant species were recorded during the survey.</p>	<p>The proposed development will result in the loss of areas of semi-improved grassland. This could result in a net loss in biodiversity at the site.</p>	<p>Demolition and Construction to Construction - Recommendations" (BS 5837) (2012).</p> <p>To compensate for the proposed habitat losses at the site, the following habitat creation measures should be incorporated:</p> <ul style="list-style-type: none"> Native tree planting Native hedgerow planting Enhancement of existing hedgerows New wildflower areas 	<p>New wildflower areas</p> <p>New wildlife pond creation</p> <p>Species-specific enhancement opportunities are detailed later in this table.</p>
<p>Amphibians</p>	<p>The site contains semi-improved grassland which is kept to a low sward by grazing, which in turn severely limits its ability to provide habitat to newts or other amphibians. There are several ponds within 500m of the site, but these have poor connectivity to the site due to intervening fencing, urban roads and the village of Oakley itself. Based on these factors, it is considered that there is a low likelihood of GCN or other amphibians being present on site.</p>	<p>No impacts are anticipated to be likely on great crested newts or other common amphibians, as a result of the proposed development as this species is considered likely to be absent from the site due to the low quality of the grass and habitats present. However a precautionary working method is recommended to ensure that the likelihood of impacts is further reduced.</p>	<p>Owing to the nature of the proposed development and the low potential for impacts to great crested newts, further surveys are considered to be disproportionate. A precautionary working method will be implemented for common amphibians during construction, including the following measures:</p> <ul style="list-style-type: none"> A pre-commencement inspection of the site will be undertaken for amphibians. A staged approach will be adopted for vegetation clearance, whereby the vegetation will be strimmed to 15cm and left overnight to allow any amphibians to disperse. The vegetation can then be cleared to ground level and must be maintained at this level for the duration of construction to deter amphibians from the working area. Best practice pollution prevention measures will be implemented to minimise impacts to nearby aquatic habitats that amphibians could use. Any chemicals or pollutants used or created by the development should be stored and 	<p>The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for amphibians:</p> <ul style="list-style-type: none"> Creation of a wildlife pond

			<p>disposed of correctly according to COSHH regulations.</p> <p>If any common amphibians are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance.</p> <p>In the unlikely event that a great crested newt is identified, works must cease and advise must be sought from a suitably qualified ecologist.</p>	
Reptiles	<p>The site contains species-poor hedgerows and semi-improved grassland which will provided limited basking and foraging opportunities for reptiles. Reptiles are therefore considered to have a low likelihood of being encountered on site.</p>	<p>Areas of grassland will be removed during construction. The loss of such habitats is likely to be inconsequential to local reptile populations owing to their low value and the presence of more extensive habitat locally. However, site clearance could result in the death or injury of reptiles, if present.</p>	<p>Owing to the nature of the proposed development and the low potential for impacts to reptiles, further surveys are considered to be disproportionate. A precautionary working method will be implemented during construction, including the following measures:</p> <p>A pre-commencement inspection of the site will be undertaken for reptiles.</p> <p>A staged approach will be adopted for vegetation clearance, whereby the vegetation will be strimmed to 15cm and left overnight to allow any reptiles to disperse. The vegetation can then be cleared to ground level and must be maintained at this level for the duration of construction to deter reptiles from the working area.</p> <p>Any rubble piles will be dismantled by hand and debris and brash will be stored on pallets or removed from the site to prevent reptiles from utilising these areas.</p> <p>Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations.</p> <p>In the unlikely event that a reptile is identified, works must cease and advise must be sought from a suitably qualified ecologist.</p>	<p>The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for reptiles:</p> <ul style="list-style-type: none"> Creation of a wildlife pond Wildflower planting Creation of 2x hibernacula along site boundaries
Foraging and commuting bats	<p>The grassland on site will provide extremely limited foraging opportunities for</p>	<p>The proposed development will result in the loss of areas of grassland, but no direct impacts upon the hedgerows. Given the low value of the</p>	<p>A low impact lighting strategy will be adopted for the site during and post-development, which will include the following measures:</p>	<p>The following habitat creation and enhancement</p>

	<p>bats. The hedgerows on the site boundaries could be used by local bat populations for foraging and commuting. These could also be used by bats dispersing from nearby roosts outside of the site.</p>	<p>grassland and the presence of more extensive areas of foraging and commuting habitat in the locality, this is likely to be inconsequential for bats.</p> <p>The proposed development will include the use of lighting which could spill on to bat roosting, foraging or commuting habitat and deter bats from using these areas.</p>	<p>Light spill on to the boundary hedgerows should be avoided.</p> <p>Use narrow spectrum light sources to lower the range of species affected by lighting.</p> <p>Use light sources that emit minimal ultra-violet light.</p> <p>Avoid white and blue wavelengths of the light spectrum to reduce insect attraction and where white light sources are required in order to manage the blue shortwave length content they should be of a warm / neutral colour temperature <4,200 kelvin.</p> <p>Not use bare bulbs and any light pointing upwards. The spread of light will be kept in line with or below the horizontal.</p> <p>Light spill will be reduced via the use of low-level lighting used in conjunction with hoods, cowls, louvers and shields. Lights will also be directional to ensure that light is directed to the intended areas only.</p> <p>External lighting will be on PIR sensors that are sensitive to large objects only (so that they are not triggered by passing bats) and will be set to the shortest time duration to reduce the amount of time the lights are on.</p> <p>Wall lights and security lights will be 'dimmable' and set to the lowest light intensity settings. There are several products on the market that allow the control of the light intensity and the duration that the lights are on. All lighting on the developed site will make use of the most up to date technology available.</p>	<p>opportunities could be incorporated into the proposed development which would be beneficial for foraging bats:</p> <ul style="list-style-type: none"> Creation of a wildlife pond Wildflower margin planting
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<p>Hazel dormouse</p>	<p>The site does not contain any suitable hazel dormice habitat, and the hedgerows on site do not provide good connectivity to any suitable woodlands in the wider area, moreover these hedgerows are unsuitable for dormice due to their small size, lack of 3d complexity and heavily flailed state.</p>	<p>No impacts are anticipated on hazel dormice as a result of the proposed development.</p>	<p>None.</p>	<p>None.</p>
<p>Hedgehog</p>	<p>The site contains some limited hedgehog habitat such as grassland and hedgerows, and hedgehogs could access the site through the hedgerow boundaries from nearby gardens and arable fields. Therefore it is considered moderately likely that hedgehogs might be encountered on site.</p>	<p>Areas of grassland will be removed during construction. The loss of such habitats is likely to be inconsequential to local hedgehog populations owing to their low value and the presence of more extensive habitat locally. However, construction activities could result in the death or injury of hedgehogs, if present.</p>	<p>A precautionary working method will be implemented during construction, including the following measures: A pre-commencement inspection of the site will be undertaken for hedgehogs. A staged approach will be adopted for vegetation clearance, whereby the vegetation will be strimmed to 30cm and left overnight to allow any hedgehogs to disperse. The vegetation can then be cleared to ground level and must be maintained at this level for the duration of construction to deter hedgehogs from the working area.</p>	<p>The following habitat creation and enhancement opportunities could be incorporated into the proposed development which would be beneficial for hedgehogs: Installation of hedgehog houses at sheltered corners of the site</p>

			<p>Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape.</p> <p>The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to retained habitats which hedgehogs could use.</p> <p>Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations.</p> <p>If any hedgehogs are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance.</p>	
Riparian Mammals (Otters, Water Voles, Beavers)	There are no watercourses on or adjacent to the site and it is highly unlikely that riparian mammals will be encountered on site.	No impacts are anticipated on riparian mammals as a result of the proposed development.	None.	None.
Birds	The site contains semi-improved grassland and species-poor hedgerows, which could offer some limited foraging habitat to nearby bird species. Birds could also build nests in the hedgerows along the site boundaries. The site lacks the size or complexity to provide useful wintering bird habitat.	Areas of semi-improved grassland will be removed during construction. The loss of such habitats is likely to be inconsequential to local bird populations owing to their low value and the presence of more extensive habitat locally.	None.	None.
Invertebrates	The site contains grazed semi-improved grassland and species-poor hedgerows which will support a limited assemblage of invertebrates.	Areas of semi-improved grassland will be removed during construction. The loss of such habitats is likely to be inconsequential to local invertebrate populations owing to their low value and the presence of more extensive habitat locally.	None.	None.

5.0 Bibliography

- Biggs, J., Ewald, N., Valentini, A., Gaboriaud, C., Dejean, T., Griffiths, R., Foster, J., Wilkinson, J., Arnell, A., Brotherton, P., Williams, P. and Dunn, F. (2014). Using eDNA to Develop a National Citizen Science-based Monitoring Programme for the Great Crested Newt (*Triturus cristatus*). *Biological Conservation*. 183. 10.1016/j.biocon.2014.11.029.
- Bright, P., Morris, P., Mitchell-Jones, T. and Wroot, S. (2006). *The Dormouse Conservation Handbook Second Edition*.
- British Standard 42020 (2013). *Biodiversity – Code of Practice for Planning and Development*.
- British Standard 8683:2021 (2021). *Process for Designing and Implementing Biodiversity Net Gain*.
- Chanin, P. (2003). *Ecology of the European Otter*. *Conserving Natura 2000 Rivers Ecology Series No. 10*. Natural England, Peterborough.
- Chartered Institute of Ecology and Environmental Management (2017). *Guidelines for Preliminary Ecological Appraisal*. 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2017). *Guidelines on Ecological Report Writing*. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2020). *Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK*. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Collins, J. (2016). *Bat Surveys for Professional Ecologists – Good Practice Guidelines, 3rd edition*, Bat Conservation Trust, London.
- Defra (2007). *Hedgerow Survey Handbook. A Standard Procedure for Local Surveys in the UK*. Defra, London.
- Edgar, P., Foster, J. and Baker, J (2010). *Reptile Habitat Management Handbook*. Amphibian and Reptile Conservation, Bournemouth
<http://downloads.gigl.org.uk/website/Reptile%20Habitat%20Management%20Handbook.pdf>
- Garland, L. & Markham, S. (2008) Is Important Bat Foraging and Commuting Habitat Legally Protected? <http://biodiversitybydesign.co.uk/cmsAdmin/uploads/protection-for-bat-habitat-sep-2007.pdf>
- Gent, T. and Gibson, S. (2003). *Herpetofauna Workers' Manual*. JNCC, Peterborough.
- Gilbert, G., Gibbons, D.W., and Evans, J. (1998) *Bird Monitoring Methods: A Manual of Techniques for UK Key Species*. The Royal Society for the protection of Birds, Sandy, Bedfordshire, England.
- Google Earth. Accessed on 05/03/2023.
- Harris, S., Cresswell, P. and Jefferies, D.J. (1989). *Surveying badgers*. Mammal Society, London.

- HMSO: Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 <https://www.legislation.gov.uk/uksi/2019/579/contents/made>
- HMSO: Countryside & Rights of Way Act (2000) <http://jncc.defra.gov.uk/page-1378>
- HMSO: Natural Environmental and Rural Communities Act (2006) <http://www.legislation.gov.uk/ukpga/2006/16/contents>
- HMSO: The Protection of Badgers Act 1992 (as amended) <http://www.legislation.gov.uk/ukpga/1992/51/contents>
- HMSO: Wildlife and Countryside Act 1981 (as amended 01.04.1996) <http://jncc.defra.gov.uk/page-1377>
- Institution of Lighting Professionals (2018). Guidance Note 08/18 Bats and Artificial Lighting in the UK. Bats and the Built Environment Series Publication: http://www.bats.org.uk/news.php/406/new_guidance_on_bats_and_lighting.
- JNCC (2004). Bat Workers Manual, 3rd Edition. <http://jncc.defra.gov.uk/page-2861>
- Joint Nature Conservation Committee (2010). Handbook for Phase 1 habitat survey a technique for environmental audit. http://jncc.defra.gov.uk/PDF/pub10_handbookforphase1habitatsurvey.pdf
- Langton, T., Beckett, C. and Foster, J (2001). Great Crested Newt Conservation Handbook. Froglife. Suffolk. http://www.froglife.org/wp-content/uploads/2013/06/GCN-Conservation-Handbook_compressed.pdf
- Magic Database. <http://www.magic.gov.uk/MagicMap.aspx> Accessed on 05/03/2023.
- Mitchell-Jones, A.J. (2004). Bat Mitigation Guidelines. English Nature, Peterborough.
- National Planning Policy Framework (2021). <https://www.gov.uk/government/publications/national-planning-policy-framework--2>
- Natural England Designated Sites View. <https://designatedsites.naturalengland.org.uk/SiteSearch.aspx> Accessed on 05/03/2023.
- Natural England (2005). Organising Surveys to Determine Site Quality for Invertebrates: A Framework Guide for Ecologists. Natural England, Peterborough.
- Natural England (2007). Badgers and Development a Guide to Best Practice and Licensing. Natural England. Bristol. <http://www.wildlifeco.co.uk/wp-content/uploads/2014/03/badgers-and-development.pdf>
- Oldham R.S., Keeble J., Swan M.J.S. and Jeffcote M. (2000). Evaluating the Suitability of Habitat for the Great Crested Newt (*Triturus cristatus*). Herpetological Journal 10(4), 143-155. <https://www.thebhs.org/publications/the-herpetological-journal/volume-10-number-4-october-2000/1617-03-evaluating-the-suitability-of-habitat-for-the-great-crested-newt-triturus-cristatus/file>
- Panks, S., White, N., Newsome, A., Potter, J., Heydon, M., Mayhew, E., Alvarez, M., Russell, T., Scott, S.J., Heaver, M., Scott, S.H., Treweek, J., Butcher, B. and Stone, D. (2021). Biodiversity Metric 3.0: Auditing and Accounting for Biodiversity – Technical Supplement. Natural England.
- 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.
- Strachan, R., Moorhouse, T. and Gelling, M. (2011). Water Vole Conservation Handbook. Third Edition. Wildlife Conservation Research Unit, Oxford.

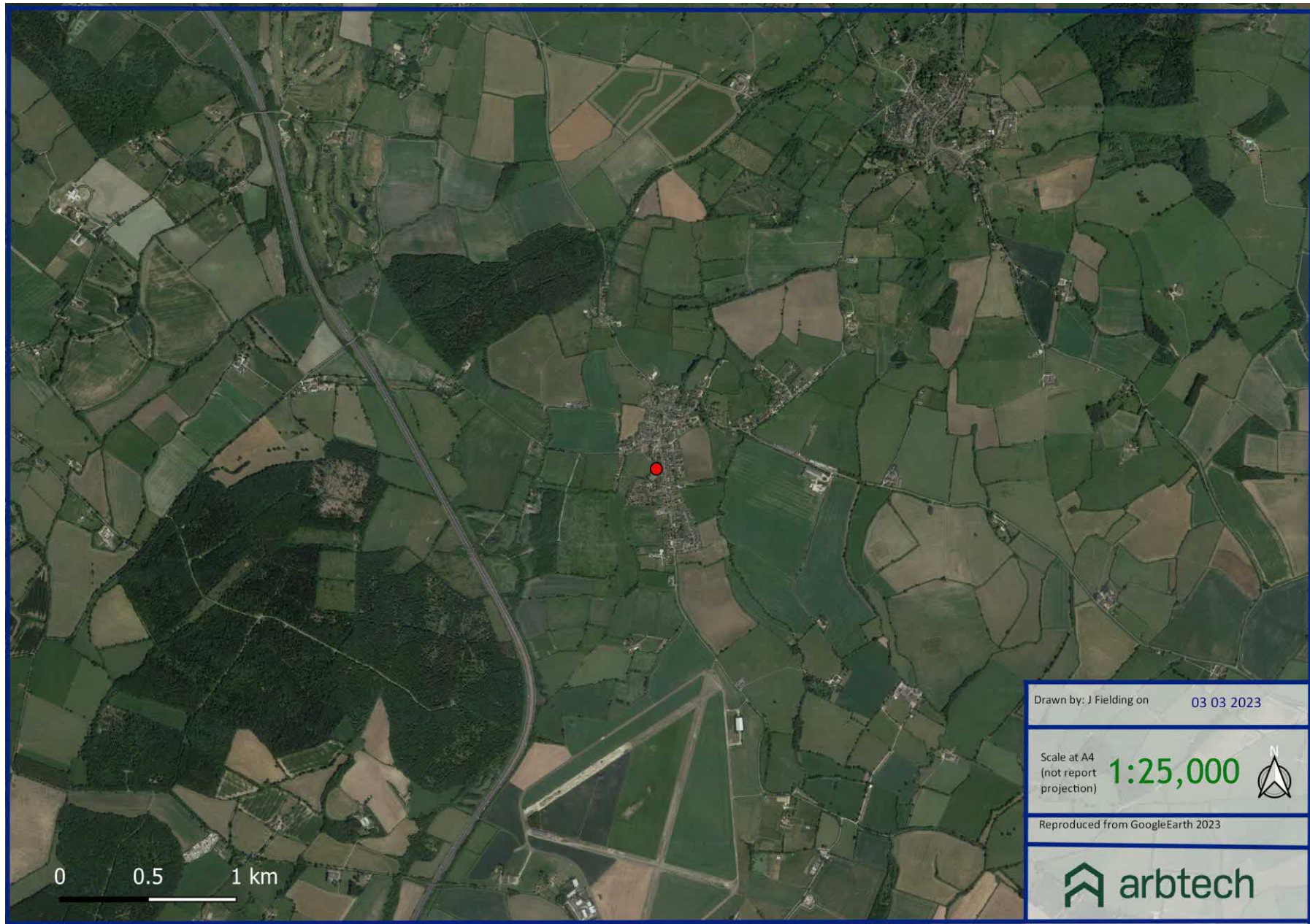
UK Habitat Classification Working Group (2018). UK Habitat Classification User Manual at <http://ecountability.co.uk/ukhabworkinggroup-ukhab>

Wray, S., Wells, D., Long, E. and Mitchell-Jones, T (2010). Valuing Bats in Ecological Impact Assessment. IEEM In-Practice. Number 70 (December 2010). Pp. 23-25.

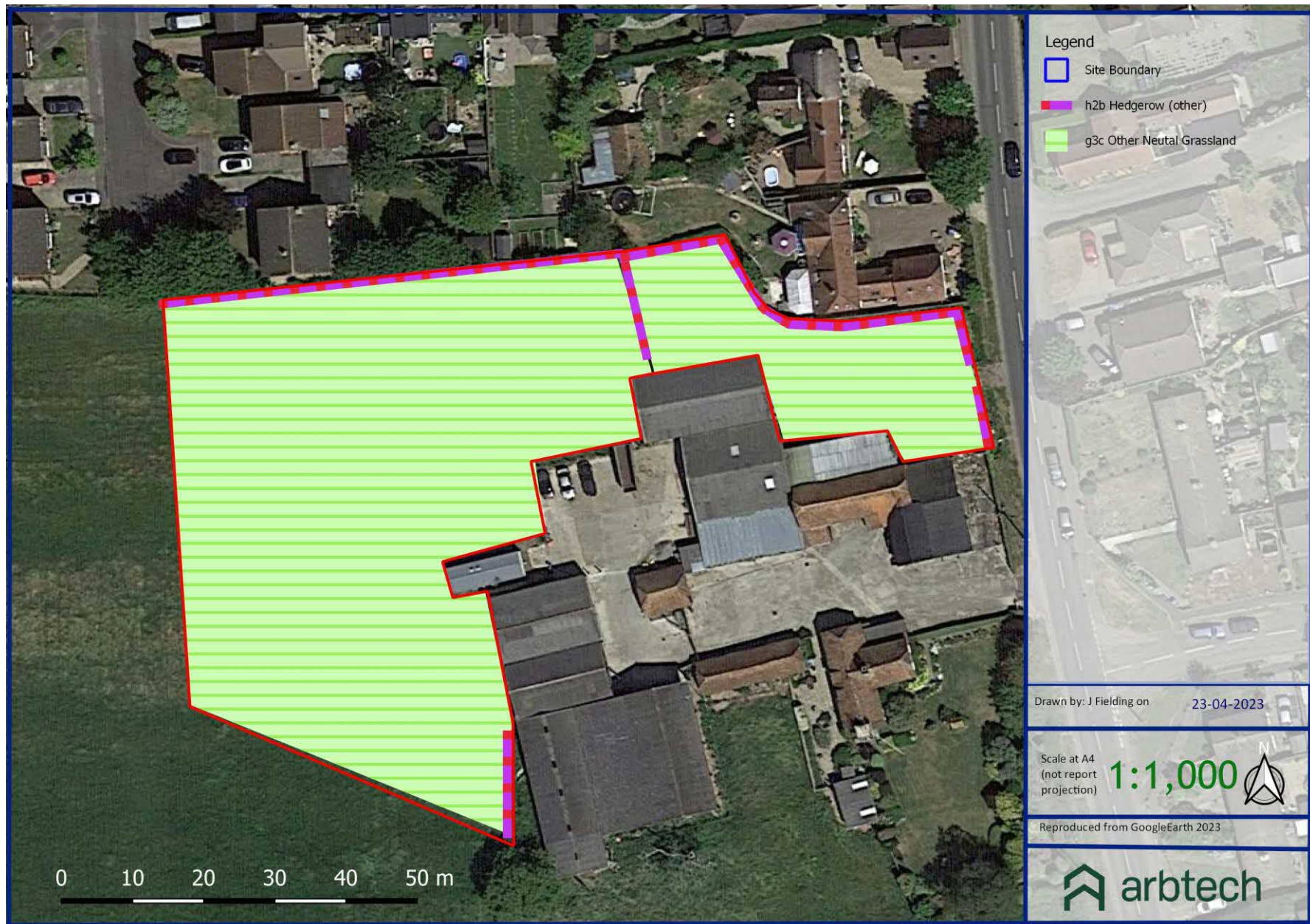
Appendix 1: Proposed Development Plan

Not available at the time of writing this report.

Appendix 2: Site Location Plan



Appendix 3: Habitat Survey Plan



Appendix 4: Legislation and Planning Policy

LEGAL PROTECTION

National and European Legislation Afforded to Habitats

International Statutory Designations

Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) are sites of European importance and are designated under the EC Habitats Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (the Habitats Directive) and the EC Birds Directive 2009/147/EC on the conservation of wild birds (the Wild Birds Directive) respectively. Both form part of the wider Natura 2000 network across Europe.

Under the Habitats Directive Article 3 requires the establishment of a network of important conservation sites (SACs) across Europe. Over 1000 animal and plant species, as well as 200 habitat types, listed in the directive's annexes are protected in various ways:

Annex II species (about 900): core areas of their habitat are designated as Sites of Community importance (SCIs) and included in the Natura 2000 network. These sites must be managed in accordance with the ecological needs of the species.

Annex IV species (over 400, including many Annex II species): a strict protection regime must be applied across their entire natural range, both within and outside Natura 2000 sites.

Annex V species (over 90): their exploitation and taking in the wild is compatible with maintaining them in a favourable conservation status.

SPAs are classified under Article 2 of the Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds both for rare bird species (as listed on Annex I) and for important migratory species.

The Conservation of Habitats and Species Regulations 2017 (as amended) form the legal basis for the implementation of the Habitats and Birds Directives in terrestrial areas and territorial waters out to 12 nautical miles in England and Wales (including the inshore marine area) and to a limited extent in Scotland and Northern Ireland.

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. The Convention covers all aspects of wetland conservation and recognises the importance of wetland ecosystems in relation to global biodiversity conservation. The Convention refers to wetlands as "areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres".

However, they may also include riparian and coastal zones. Ramsar sites are statutorily protected under the Wildlife & Countryside Act 1981 (as amended 01.04.1996) with further protection provided by the Countryside and Rights of Way (CRoW) Act 2000. Policy statements have been issued by the Government in England and Wales highlighting the special status of Ramsar sites.

The Government in England and Wales has issued policy statements which ensure that Ramsar sites are afforded the same protection as areas designated under the EC Birds and Habitats Directives as part of the Natura 2000 network (e.g. SACs & SPAs). Further provisions for the protection and management of SSSIs have been introduced by the Nature Conservation (Scotland) Act 2004.

National Statutory Designations

Sites of Special Scientific Interest (SSSI) are designated by nature conservation agencies in order to conserve key flora, fauna, geological or physio-geographical features within the UK. The original designations were under the National Parks and Access to the Countryside Act 1949 but SSSIs were then re-designated under the Wildlife & Countryside Act 1981 (as amended). As well as reinforcing other national designations (including National Nature Reserves), the system also provides statutory protection for terrestrial and coastal sites which are important within the European Natura 2000 network and globally.

Local Statutory Designations

Local authorities in consultation with the relevant nature conservation agency can declare Local Nature Reserves (LNRs) under the National Parks and Access to the Countryside Act 1949. LNRs are designated for flora, fauna or geological interest and are managed locally to retain these features and provide research, education and recreational opportunities.

Non- Statutory Designations

All non-statutorily designated sites are referred to as Local Wildlife Sites (LWS) and can be designated by the local authority for supporting local conservation interest. Combined with statutory designation, these sites are considered within Local Development Frameworks under the Town and Country Planning system and are a material consideration during the determination of planning applications. The protection afforded to these sites varies depending on the local authority involved.

Regionally Important Geological Sites (RIGs) are the most important geological and geomorphological areas outside of statutory designations. These sites are also a material consideration during the determination of planning applications.

The Hedgerow Regulations 1997

The Hedgerow Regulations 1997 are designed to protect 'important' countryside hedgerows. Importance is defined by whether the hedgerow (a) has existed for 30 years or more; or (b) satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations.

Under the Regulations, it is against the law to remove or destroy hedgerows on or adjacent to common land, village greens, SSSIs (including all terrestrial SACs, NNRs and SPAs), LNRs, land used for agriculture or forestry and land used for the keeping or breeding of horses, ponies or donkeys without the permission of the local authority. Hedgerows 'within or marking the boundary of the curtilage of a dwelling-house' are excluded.

National and European Legislation Afforded to Species

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

The Conservation of Habitats and Species Regulations 2017 (as amended) aims to promote the maintenance of biodiversity by requiring the Secretary of State to take measures to maintain or restore wild species listed within the Regulations at a favourable conservation status.

The Regulations make it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2, or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 4. However, these actions can be made lawful through the granting of licenses by the appropriate authorities. Licenses may be granted for a number of purposes (such as science and education, conservation, preserving public health and safety), but only after the appropriate authority is satisfied that there are no satisfactory alternatives and that such actions will have no detrimental effect on wild population of the species concerned.

The Wildlife and Countryside Act (WCA) 1981 (as amended)

The Wildlife and Countryside Act (WCA) 1981 (as amended) implements the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1979, implemented 1982) and implements the species protection requirements of EC Birds Directive 2009/147/EC on the conservation of wild birds in Great Britain (the birds Directive). The WCA 1981 has been subject to a number of amendments, the most important of which are through the Countryside and Rights of Way (CRoW) Act (2000).

Other legislative Acts affording protection to wildlife and their habitats include:

Deer Act 1991

Natural Environment & Rural Communities (NERC) Act 2006

Protection of Badgers Act 1992

Wild Mammals (Protection) Act 1996

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

A development licence will be required from the relevant countryside agency (i.e. Natural England) for any development works likely to affect an active badger sett, or to disturb badgers whilst they occupy a sett. Guidance has been issued by the countryside agencies to define what would constitute a licensable activity. It is not possible to obtain a licence to translocate badgers.

Birds

With certain exceptions, all birds, their nests and eggs are protected under Sections 1-8 of the WCA. Among other things, this makes it an offence to:

- Intentionally kill, injure or take any wild bird

- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built

- Intentionally take or destroy an egg of any wild bird

- Sell, offer or expose for sale, have in his possession or transport for the purpose of sale any wild bird (dead or alive) or bird egg or part thereof.

Certain species of bird, for example the barn owl, bittern and kingfisher receive additional protection under Schedule 1 of the WCA and are commonly referred to as "Schedule 1" birds.

This affords them protection against:

- Intentional or reckless disturbance while it is building a nest or is in, on or near a nest containing eggs or young

- Intentional or reckless disturbance of dependent young of such a bird

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

Works should be planned to avoid the possibility of killing or injuring any wild bird or damaging or destroying their nests. The most effective way to reduce the likelihood of nest destruction in particular is to undertake work outside the main bird nesting season which typically runs from March to August. Where this is not feasible, it will be necessary to have any areas of suitable habitat thoroughly checked for nests prior to vegetation clearance.

Schedule 1 birds are additionally protected against disturbance during the nesting season. Thus, it will be necessary to ensure that no potentially disturbing works are undertaken in the vicinity of the nest. The most effective way to avoid disturbance is to postpone works until the young have fledged. If this is not feasible, it may be possible to maintain an appropriate buffer zone or standoff around the nest.

Amphibians and Reptiles

The sand lizard *Lacerta agilis*, smooth snake *Coronella austriaca*, natterjack toad *Epidalea calamita*, pool frog *Pelophylax lessonae* and great crested newt *Triturus cristatus* receive full protection under Habitats Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species

- Deliberate disturbance of species in such a way as:

 - To impair their ability to survive, breed, or reproduce, or to rear or nurture young;

 - To impair their ability to hibernate or migrate

 - To affect significantly the local distribution or abundance of the species

 - Damage or destruction of a breeding site or resting place

With the exception of the pool frog, these species are also listed on Schedule 5 of the WCA and they are additionally protected from:

- Intentional or reckless disturbance (at any level)

- Intentional or reckless obstruction of access to any place of shelter or protection

- Selling, offering or exposing for sale, possession or transporting for purpose of sale.

Other native species of reptiles are protected solely under Schedule 5, Section 9(1) & (5) of the WCA, i.e. the adder *Vipera berus*, grass snake *Natrix natrix*, common lizard *Zootoca vivipara* and slow-worm *Anguis fragilis*. It is prohibited to:

- Intentionally or recklessly kill or injure these species.

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

A European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e. Natural England) will be required for works likely to affect the breeding sites or resting places amphibian and reptile species protected under Habitats Regulations. A licence will also be required for operations liable to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licences are to allow derogation from the relevant legislation, but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

Although not licensable, appropriate mitigation measures may also be required to prevent the intentional killing or injury of adder, grass snake, common lizard and slow worm, thus avoiding contravention of the WCA.

Water Voles

The water vole *Arvicola terrestris* is fully protected under Schedule 5 of the WCA. This makes it an offence to:

Intentionally kill, injure or take (capture) water voles

Intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection

Intentionally or recklessly disturb water voles while they are occupying a structure or place used for shelter or protection

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

If development works are likely to affect habitats known to support water voles, the relevant countryside agency (i.e. Natural England) must be consulted. It must be shown that means by which the proposal can be re-designed to avoid contravening the legislation have been fully explored e.g. the use of alternative sites, appropriate timing of works to avoid times of the year in which water voles are most vulnerable, and measures to ensure minimal habitat loss. Conservation licences for the capture and translocation of water voles may be issued by the relevant countryside agency for the purpose of development activities if it can be shown that the activity has been properly planned and executed and thereby contributes to the conservation of the population. The licence will then only be granted to a suitably experienced person if it can be shown that adequate surveys have been undertaken to inform appropriate mitigation measures. Identification and preparation of a suitable receptor site will be necessary prior to the commencement of works.

Otters

Otters *Lutra lutra* are fully protected under the Conservation Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

Deliberate killing, injuring or capturing of Schedule 2 species

Deliberate disturbance of species in such a way as:

To impair their ability to survive, breed, or reproduce, or to rear or nurture young;

To impair their ability to hibernate or migrate

To affect significantly the local distribution or abundance of the species

Damage or destruction of a breeding site or resting place

Otters are also currently protected under the WCA through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

Intentional or reckless disturbance (at any level)

Intentional or reckless obstruction of access to any place of shelter or protection

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

A European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e. Natural England) will be required for works likely to affect otter breeding or resting places (often referred to as holts, couches or dens) or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, and rear young). The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored

Bats

All species are fully protected by Habitats Regulations 2010 as they are listed on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species (e.g. All bats)

- Deliberate disturbance of bat species in such a way as:

 - To impair their ability to survive, breed, or reproduce, or to rear or nurture young;

 - To impair their ability to hibernate or migrate

 - To affect significantly the local distribution or abundance of the species

 - Damage or destruction of a breeding site or resting place

Bats are afforded the following additional protection through the WCA as they are included on Schedule 5:

- Intentional or reckless disturbance (at any level)

- Intentional or reckless obstruction of access to any place of shelter or protection

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

A European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e. Natural England) will be required for works are likely to affect a bat roost or an operation which are likely to result in an illegal level of disturbance to the species will require an EPSL. The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

Hazel Dormice

Hazel dormice *Muscardinus avellanarius* are fully protected under Habitats Regulations through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species

- Deliberate disturbance of species in such a way as:

 - To impair their ability to survive, breed, or reproduce, or to rear or nurture young;

 - To impair their ability to hibernate or migrate

To affect significantly the local distribution or abundance of the species

Damage or destruction of a breeding site or resting place

Dormice are also protected under the WCA through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

Intentional or reckless disturbance (at any level)

Intentional or reckless obstruction of access to any place of shelter or protection

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

Works which are liable to affect a dormice habitat or an operation which are likely to result in an illegal level of disturbance to the species will require a European Protected Species Licence (EPSL) issued by the relevant countryside agency (i.e. Natural England). The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

White Clawed Crayfish

There is a considerable amount of legislation in place in an attempt to protect the White-clawed crayfish *Austropotamobius pallipes*. This species is listed under the European Union's (EU) Habitat and Species Directive and is listed under Schedule 5 of the Wildlife and Countryside Act (1981). This makes it an offence to:

Protected against intentional or reckless taking

Protected against selling, offering or advertising for sale, possessing or transporting for the purpose of sale

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

The relevant countryside agency (i.e. Natural England) will need to be consulted about development which could impact on a watercourse or wetland known to support white clawed crayfish. Conservation licences for the capture and translocation of crayfish can be issued if it can be shown that the activity has been properly planned and executed and thereby contributes to the conservation of the population. The licence will only be granted to a suitably experienced person if it can be shown that adequate surveys have been undertaken to inform appropriate mitigation measures. Identification and preparation of a suitable receptor site will be necessary prior to the commencement of the works.

Wild Mammals (Protection Act) 1996

All wild mammals are protected against intentional acts of cruelty under the above legislation. This makes it an offence to mutilate, kick, beat, nail or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering.

To avoid possible contravention, due care and attention should be taken when carrying out works (for example operations near burrows or nests) with the potential to affect any wild mammal in this way, regardless of whether they are legally protected through other conservation legislation or not.

Legislation Afforded to Plants

With certain exceptions, all wild plants are protected under the WCA. This makes it an offence for an 'unauthorised' person to intentionally (or recklessly in Scotland) uproot wild plants. An authorised person can be the owner of the land on which the action is taken, or anybody authorised by them.

Certain rare species of plant, for example some species of orchid, are also fully protected under Schedule 8 of the Wildlife and Countryside Act 1981 (as amended). This prohibits any person from:

- Intentionally picking, uprooting or destruction of any wild Schedule 8 species

- Selling, offering or exposing for sale, or possessing or transporting for the purpose of sale, any wild live or dead Schedule 8 plant species or part thereof

In addition to the UK legislation outlined above, several plant species are fully protected under Schedule 5 of The Conservation of Habitats and Species Regulations 2010. These are species of European importance. Regulation 45 makes it an offence to:

- Deliberately pick, collect, cut, uproot or destroy a wild Schedule 5 species

- Be in possession of, or control, transport, sell or exchange, or offer for sale or exchange any wild live or dead Schedule 5 species or anything derived from such a plant.

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

A European Protected Species Licence (EPSL) will be required from the relevant countryside agency (i.e. Natural England) for works which are likely to affect species of planted listed on Schedule 5 of the Conservation or Habitats and Species Regulations 2010. The licence is to allow derogation from the legislation through the application of appropriate mitigation measures and monitoring.

Invasive Species

Part II of Schedule 9 of the WCA lists non-native invasive plant species for which it is a criminal offence in England to plant or cause to grow in the wild due to their impact on native wildlife.

Species included (but not limited to):

- Japanese knotweed *Fallopia japonica*

- Giant hogweed *Heracleum mantegazzianum*

- Himalayan balsam *Impatiens glandulifera*

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

It is not an offence for plants listed in Part II of Schedule 9 of the WCA 1981 to be present on the development site, however, it is an offence to cause them to spread. Therefore, if any of the species are present on site and construction activities may result in further spread (e.g. earthworks, vehicle movements) then it will be necessary to design and implement appropriate mitigation prior to construction commencing.

Injurious weeds

Under the Weeds Act 1959 any landowner or occupier may be required prevent the spread of certain 'injurious weeds' including (but not limited to):

Spear thistle *Cirsium vulgare*

Creeping thistle *Cirsium arvense*

Curled dock *Rumex crispus*

Broad-leaved dock *Rumex obtusifolius*

Common ragwort *Senecio jacobaea*

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

It is a criminal offence to fail to comply with a notice requiring such action to be taken. The Ragwort Control Act 2003 establishes a ragwort control code of practice as common ragwort is poisonous to horses and other livestock. This code provides best practice guidelines and is not legally binding.

NATIONAL PLANNING POLICY

Environment Act 2021

The Environment Act 2021 (EA 2021) received Royal Assent on 9 November 2021 and is expected to become fully mandated within the next couple of years. The Act principally creates a post Brexit framework to protect and enhance the natural environment. Through amendments to the Town and Country Planning Act 1990, the Act will require all planning permissions in England (subject to exemptions which is likely to include householder applications) to be granted subject to a new general pre-commencement condition that requires approval of a biodiversity net gain plan. This will ensure the delivery of a minimum of 10% measurable biodiversity net gain. The principal tool to calculate this will be the Defra Biodiversity 3.0 Metric. Works to enhance habitats can be carried out either onsite or offsite or through the purchase of 'biodiversity credits' from the Secretary of State. However, this flexibility may be removed (subject to regulations) if the onsite habitat is 'irreplaceable'. Both onsite and offsite enhancements must be maintained for at least 30 years after completion of a development (which period may be amended).

National Planning Policy Framework 2021

The National Planning Policy Framework promotes sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and species. An emphasis is also made on the need for ecological infrastructure through protection, restoration and re-creation. The protection and recovery of priority species (considered likely to be those listed as species of principal importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006) is also listed as a requirement of planning policy.

In determining a planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; measurable gains in biodiversity in and around developments are incorporated; and planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

The Natural Environment and Rural Communities Act 2006 and the Biodiversity Duty

Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006, requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 41 of the Act requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity'. This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.

LOCAL PLANNING POLICY

Vale of Aylesbury Local Plan (VALP) (adopted 2013 - 2033)

NE1 Biodiversity and Geodiversity Protected Sites

Internationally or nationally important Protected Sites (SACs and SSSIs) and species will be protected. Avoidance of likely significant adverse effects should be the first option. Development likely to affect the Chiltern Beechwoods SAC will be subject to assessment under the Habitat Regulations and will not be permitted unless any significant adverse effects can be fully mitigated. Development proposals that would lead to an individual or cumulative adverse impact on an internationally or nationally important Protected Site or species, such as SSSIs or irreplaceable habitats such as ancient woodland or ancient trees, will be refused unless exceptional circumstances can be demonstrated as follows: a. the benefits of the development at this site significantly and demonstrably outweigh both the impacts that it is likely to have on the features of the site that make it internationally or nationally important and any broader impacts on the national network – for example of Sites of Special Scientific Interest, and
b. the loss can be mitigated and compensation can be provided to achieve a net gain in biodiversity/geodiversity

Sufficient information must be provided for the council to assess the significance of the impact against the importance of the Protected Site and its component habitats and the species which depend upon it. This will include the area around the Protected Site and the ecosystem services it provides and evidence that the development has followed the mitigation hierarchy set out in (d) below.

Protection and enhancement of Biodiversity and Geodiversity

Protection and enhancement of biodiversity and geodiversity will be achieved by the following:

- c. 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.
- d. If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or as a last resort, compensated for, then development will not be permitted. If a net loss in biodiversity is calculated, using a suitable Biodiversity Impact Assessment (see c) then avoidance, mitigation and compensation, on site first, then offsite must be sought so the development results in a net gain (percentage of net gain to meet any nationally-set minimum standard and Vale of Aylesbury Local Plan 254 or as detailed in an SPD) in order for development to be permitted. Mitigation, compensation and enhancement measures must be secured and should be maintained in perpetuity. These assessments must be undertaken in accordance with nationally-accepted standards and guidance (BS 8683 Biodiversity net gain in project design and construction; and CIRIA Biodiversity Net Gain Good practice principles for development).
- e. Development which would result in damage to or loss of a site of biodiversity or geological value of regional or local importance (such as Local Wildlife Sites or Local Geological Sites) including habitats of principal importance (known as Priority Habitats) or the habitats of species of principal importance (Priority Species) or their habitats will not be permitted except in exceptional circumstances where the need for, and benefits of the development significantly and demonstrably outweigh the harm it would cause to the site, and the loss can be mitigated and compensation provided to achieve a net gain.
- f. The Council will, where appropriate, expect ecological surveys for planning applications. These must be undertaken by a suitably qualified person and consistent with nationally accepted standards and guidance (BS 42020: Biodiversity – Code of Practice for planning and development; and CIEEM Ecological Report Writing guidance) as replaced
- g. Where development proposals affect a Priority Habitat (As defined in the Buckinghamshire Biodiversity Action Plan or UK Biodiversity Action Plan and as listed in accordance with s41 of

the NERC Act 2006) then mitigation should not be off-site. Where no Priority Habitat is involved then mitigation is expected to follow the mitigation hierarchy, where options for avoidance, mitigation and compensation on-site, and then offsite compensation, should be followed in that order as outlined in d. When there is a reasonable likelihood of the presence of protected or priority species or their habitats, development will not be permitted until it has been demonstrated that the proposed development will not result in adverse impacts on these species or their habitats. The only exception will be where the advantages of development to the protected site and the local community clearly outweigh the adverse impacts. In such a case, the council will consider the wider implications of any adverse impact to a protected site, such as its role in providing a vital wildlife corridor, mitigating flood risk or ensuring good water quality in a catchment.

h. Development proposals will be expected to promote site permeability for wildlife and avoid the fragmentation of wildlife corridors, incorporating features to encourage biodiversity, and retain and where possible enhance existing features of nature conservation value on site. Existing ecological networks should be identified and maintained to avoid habitat fragmentation, and ecological corridors including water courses should form an essential component of green infrastructure provision in association with new development to ensure habitat connectivity

i. Planning conditions/obligations will be used to ensure net gains in biodiversity by helping to deliver the Buckinghamshire and Milton Keynes Biodiversity Action Plan targets in the biodiversity opportunity areas and other areas of local biodiversity priority. Where development is proposed within, or adjacent to, a biodiversity opportunity area, biodiversity surveys and a report will be required to identify constraints and opportunities for biodiversity enhancement. Development which would prevent the aims of a Biodiversity Opportunity Area from being achieved will not be permitted. Where there is potential for development, the design and layout of the development should secure biodiversity enhancement and the council will use planning conditions and obligations as needed to help achieve the aims of the biodiversity opportunity area. A monitoring and management plan will be required for Vale of Aylesbury Local Plan 255 biodiversity features on site to ensure their long-term suitable management (secured through planning condition or Section 106 agreement).

j. Development proposals adversely affecting a Local Nature Reserve will be considered on a case-by-case basis, according to the amount of information available about the site and its significance, relative to the type, scale and benefits of the development being proposed and any mitigation. Any mitigation strategy will need to include co-operation with the nature reserve managers.

EUROPEAN PROTECTED SPECIES POLICIES

In December 2016 Natural England officially introduced the four licensing policies throughout England. The four policies seek to achieve better outcomes for European Protected Species (EPS) and reduce unnecessary costs, delays and uncertainty that can be inherent in the current standard EPS licensing system. The policies are summarised as follows:

Policy 1; provides greater flexibility in exclusion and relocation activities, where there is investment in habitat provision;

Policy 2; provides greater flexibility in the location of compensatory habitat;

Policy 3; provides greater flexibility on exclusion measures where this will allow EPS to use temporary habitat; and,

Policy 4; provides a reduced survey effort in circumstances where the impacts of development can be confidently predicted.

The four policies have been designed to have a net benefit for EPS by improving populations overall and not just protecting individuals within development sites. Most notably Natural England now recognises that the Habitats Regulations legal framework now applies to 'local populations' of EPS and not individuals/site populations.