ARBORWEALD
ENVIRONMENTAL PLANNING CONSULTANCY

Landscape, Arboriculture and Ecology

Surveys – Plans – Assessments - Mitigation – Solutions – Methodology

www.Arborweald.co.uk

Preliminary Ecological Appraisal

Land at Former Warninglid Primary School

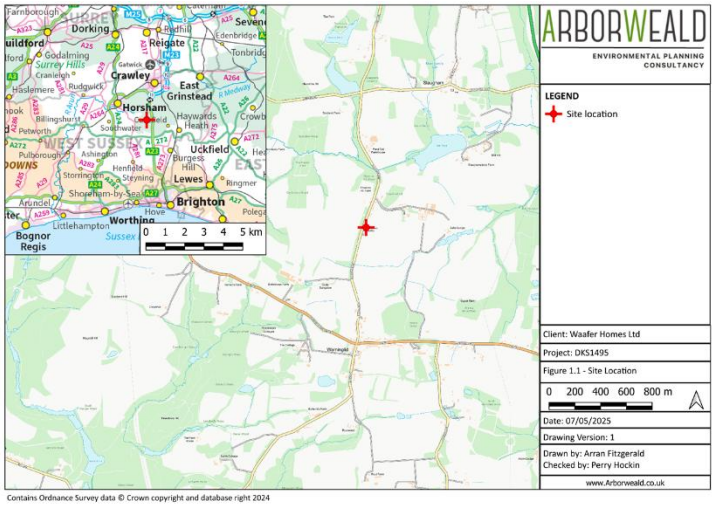
Slaugham Lane

Warninglid

West Sussex

RH17 5TJ

TQ 25053 26984



Waafer Homes Ltd,
Cidermill Farm,
Warnham,
Horsham,
RH12 3SN

Arborweald Environmental Planning Consultancy
Woodland Enterprise Centre
Hastings Road
Flimwell
East Sussex
TN5 7PR

Document information

Notice to Interested Parties

The author has prepared this report for the sole use of the commissioning party in accordance with the agreement under which our services were performed. No warranty, express or implied, is made as to the advice in this report or any other service provided by us. This report may not be relied upon by any other party without the prior written permission of the author. The content of this report is, at least in part, based upon information provided by others and on the assumption that all relevant information has been provided by those parties from whom it has been requested. Information obtained from any third party has not been independently verified by the author, unless otherwise stated in the report.

No investigative method can completely eliminate the possibility of obtaining partially imprecise or incomplete information. Thus, we cannot guarantee that the investigations completely defined the degree or extent of species abundances or habitat management efficacy described in the report.

The material presented in this report is confidential. This report has been prepared for the exclusive use of the client and shall not be distributed or made available to any other company or person without the knowledge and written consent of the author. Notwithstanding confidentiality, this document may be utilised and publicly displayed with reference to the development proposal planning application.

This report and all survey work have been prepared to British Standard 42020 and rely on information and methodology from the Joint Nature Conservation Committee and the Chartered Institute of Ecological and Environmental Management.

Additionally, this report relies on information from other third parties, some of which may include, but not be limited to; DEFRA's MAGIC database, local record centres, local wildlife spotter groups such as badger groups, and the NBN atlas.

Report title:	DKS/1495.2 Preliminary Ecological Appraisal, Preliminary Roost Assessment, and Biodiversity Metric Assessment				
Client:	Waafer Homes Ltd, FAO: Mr J Clark				
Document ref:	DKS/1495.2 PEA, PRA, BMA				
Author / Surveyor:	Arran Fitzgerald BSc (Hons.), MSc – Assistant Ecologist, Perry Hockin BSc (Hons.), FDSc, CIEEM – Principal Ecologist				
Reviewed by:	Perry Hockin BSc (Hons.), FDSc, CIEEM – Principal Ecologist				
Approved By:	Perry Hockin BSc (Hons.), FDSc, CIEEM – Principal Ecologist				
Report date:	13th May 2025				
Updated on:	11/08/2025	**Initials**:	ALF	**Update**:	BNG Landscaping

Declaration: The information which I have prepared and provided for this report is true and has been prepared and provided in accordance with the CIEEM's Code of Professional Conduct; I confirm that the opinions expressed are my true and professional bona fide opinions.

Printed: Arran Fitzgerald BSc (Hons.), MSc – Assistant Ecologist

Signed: 

CONTENTS

EXECUTIVE SUMMARY

0.1 Arborweald Environmental Planning Consultancy (AEPC) were commissioned by Waafer homes Ltd for land at the Former Warninglid Primary School, Slaugham Lane, Warninglid, West Sussex, RH17 5TJ (TQ 25053 26984) to undertake:

- A Preliminary Ecological Appraisal (PEA) for habitats and protected species
- A Preliminary Roost Assessment (PRA) for bats and birds
- A Biodiversity Metric Assessment (BMA) to help achieve biodiversity net gain

0.2 Through a proportionally comprehensive desk study and site visit the habitats within the redline boundary of the proposed development were assessed for their potential to support protected species. This report evaluates the constraints that the presence of any protected species or species of conservation concern may place on the proposed re-development of the site.

0.3 The habitats present within the site boundary comprise buildings, hardstanding, scrub, semi-improved grassland, scattered trees, woodland and hedgerows.

0.4 The habitats present on site have the potential to provide suitable habitat for protected species. This suitability was accordingly assessed and discounted as appropriate.

0.5 Development plans on site comprise

- The conversion, extension and renovation of the former school buildings into residential units.
- The Demolition of buildings 1 and 2 and erection of 2 new dwellings.

0.6 Biodiversity enhancements should be incorporated into the development and section 6 of this report provides detail on potential enhancements.

0.7 A Biodiversity Metric Assessment (BMA) made using the most recently published statutory metric (29/11/23) revealed that Biodiversity Net Gain (BNG) can be achieved.

Enhancement yield		
On site		**Offsite enhancement required?**
Area habitats	10%	Required
Hedgerows	10%	Required
Watercourses	N/a	Not required

0.8 The following additional surveys will be required:

- One dusk emergence survey to assess potential bat roosting activity within the main school building.

1 INTRODUCTION

1.1 Arborweald Environmental Planning Consultancy (AEPC) were commissioned by Waafer homes Ltd for land at the Former Warninglid Primary School, Slaugham Lane, Warninglid, West Sussex, RH17 5TJ (TQ 25053 26984) to undertake:

- A Preliminary Ecological Appraisal (PEA) for habitats and protected species
- A Preliminary Roost Assessment (PRA) for bats and birds
- A Biodiversity Metric Assessment (BMA) to help achieve biodiversity net gain

1.2 The objectives of the PEA were to assess the potential of the site to support protected species and/or species of conservation importance by identifying potential habitat for protected species and/or species of conservation concern and by evaluating the constraints that the presence of any protected species or species of conservation concern may place on the proposed re-development of the site.

1.3 The PRA of buildings on site involved carrying out a detailed assessment to assess their likelihood and potential to support bat species. The assessment comprised of a thorough internal and external inspection of the buildings for the presence of bats and/or any evidence of bats or the likelihood that a particular structure could support bat species.

1.4 The objectives of the BMA were to provide a quantified assessment of the existing biodiversity value of the habitats on site, such that the impact of the development can be measured and compensated for in line with the relevant legislation.

Surveyors and author competency

1.5 Surveys were undertaken on the 23rd of April 2025 by Principal Ecologist Perry Hockin BSc (Hons.), FDSc, ACIEEM and Arran Fitzgerald BSc (Hons.), MSc – Assistant Ecologist.

Perry Hockin – Principal Ecologist

Perry Hockin is a qualified and experienced ecologist and the primary ecological contact at Arborweald. With both a BSc in Ecology from the University of Brighton and a FDSc in Countryside Management from Plumpton Agricultural College, Perry has worked in the countryside sector since 2013 in the fields of tree surgery, landscaping, countryside management and ecological consultancy where his qualifications have provided him with a balance of both practical and desk-based experience of complex multi-faceted projects.

His experience is focussed primarily on botany, habitat management, biodiversity net gain, and data management, and his holistic approach to projects has earned him high praise from local planning authorities and conservation bodies alike across the south-east.

Arran Fitzgerald – Assistant Ecologist

Arran Fitzgerald is a qualified and experienced ecologist who became associated with Arborweald in 2023 as a part time surveyor and ecological clerk of works. Having achieved a first-class honours degree in Zoology, followed by a master's in applied wildlife Conservation, Arran has since worked in Ecological Landscaping, implementing environmental mitigation measures for medium to large-scale infrastructure and conservation projects across the UK.

Arran's career spans a diverse range of ecological projects, from the installation of hibernacula and newt fencing to woodland/hedgerow regeneration efforts. He has also worked on innovative environmental solutions, such as using hydroseeding techniques to remediate toxic mining tailings. With a balanced approach to conservation and restoration, Arran's dedication extends beyond his professional work, with extensive volunteer experience that has enriched his understanding of ecology from a hands-on perspective.

Legislation and Policy

1.6 Certain habitats and species including nesting birds, bats, dormice, and great crested newts, are afforded protection under the Conservation of Habitats and Species Regulations 2017 and the Wildlife & Countryside Act 1981 (as amended). Further information on the legislation is included in Appendix A.

1.7 In general, the above legislation makes it an offence to:

- Deliberately/intentionally or recklessly kill, injure, or take a protected species;
- Intentionally or recklessly damage, destroy or obstruct access to any place that a protected species uses for shelter or protection whether the species is present or not;
- Intentionally or recklessly disturb a protected species while it is occupying a structure or place that it uses for shelter or protection;
- Deliberately take or destroy the eggs of species protected by this legislation (such as nesting birds).

1.8 Section 41 of the Natural Environment and Rural Communities Act (2006) lists the species and habitats of principal importance for the conservation of biodiversity in England and acts as a guide to local authorities in implementing their duties under Section 40, to have regard to the conservation of biodiversity in England.

1.9 The Protection of Badgers Act (1992) prohibits reckless and/or intentional cruelty, injury or killing of badgers and the interference with badger setts.

1.10 Under The National Planning Policy Framework (NPPF, 2024) protected sites and species are a material consideration in determining planning applications in terms of minimising impacts on biodiversity.

1.11 National Planning Policy guidance uses a mitigation hierarchy, whereby potential impacts are first avoided through changes to design plans; then unavoidable impacts are mitigated against to reduce the negative effect of the impact; finally, residual impacts that remain after avoidance and mitigation measures are applied are compensated for (BS 42020, 2013, Section 5.2). Further to this, it is a requirement under National Planning Policy for developers to actively enhance the biodiversity value of development projects.

1.12 Schedule 14 of the Environment Act 2021 mandates the need for a minimum 10% net gain in biodiversity value for development sites.

Site Description

1.13 The site is located in Warninglid, West Sussex (Ordnance Survey Grid Reference for the centre of the site: TQ 25053 26984). The development site is approximately 0.54 ha in area and comprises a former primary school and associated grounds. Habitats on site include buildings, hardstanding, semi-improved grassland, hedgerow, scrub, individual trees and woodland.

1.14 The location of the site is shown in Figure 1.1 and the extent of the site boundary is shown in Figure 1.2.

1.15 The habitats in the wider landscape comprise predominantly rural features including grassland, woodland, and arable fields, with occasional scattered residential properties and road networks.

Development Proposals

1.16 Development plans on site comprise

- The conversion, extension and renovation of the former school buildings into residential units.

- The Demolition of buildings 1 and 2 and erection of 2 new dwellings.

Survey Constraints

General constraints

1.17 Due to seasonal behaviour of animals and the seasonal growth patterns of plants, ecological surveys may be limited by the time of year in which they are undertaken.

1.18 The information gathered for this ecological survey has facilitated an evaluation of the habitats on site and the likely use of the site by legally protected and notable species. This survey has also given appropriate baseline data for the determination of the requirement for further surveys and/or mitigation, and enhancement works.

Site specific constraints

1.19 There are no site-specific constraints.

2 METHODS

Desk Study

2.1 The Multi Agency Geographic Information for the Countryside (MAGIC) website provided by the Department for Environment, Food and Rural Affairs (DEFRA) was consulted for information with regard to protected habitats and species within 2 km of the proposed development (red line) boundary.

2.2 Aerial photos of the site (Google, 2020) were examined to determine habitats surrounding the site and hence species likely to be present in order to make appropriate recommendations in the wider landscape context.

2.3 Following guidance contained within sections 5.5 and 6.2.1 of BS 42020:2013, records from the local biodiversity record centre may be deemed necessary, in which case the results are screened for relevance. This involves an analysis (in conjunction with DEFRA's MAGIC map software) of connectivity between recorded instances and the site boundary. Records are also screened for age; records are prioritised from the last 10 years, with records from the past 20 and 40 years deemed as less accurate but still included where possible.

Biodiversity Metric Assessment

2.4 The Natural England 'Biodiversity Metric' tool was utilised to provide a quantified measurement of the biodiversity enhancement offered by the development.

2.5 The tool accepts values for areas of Natural England habitat types and gives each habitat a value based on its size, rarity, importance locally, and condition. Area of loss of each of these habitats is then entered, along with area of enhanced habitat provided by the development and a total percentage change is calculated.

2.6 The full methodology used by the Biodiversity Metric can be found on the Natural England website.

Field Survey

Preliminary Ecological Appraisal

2.7 The survey was conducted in accordance with The Handbook for Phase 1 Habitat Survey (JNCC, 2016), and included searches for signs of protected species, as described in the Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017).

2.8 A Preliminary Ecological Appraisal survey of the site was carried out in order to evaluate any habitat on the site with the potential to support protected species and/or other species of conservation concern that could be relevant in respect of planning policies.

2.9 In addition, the habitats within the survey area were assessed for their potential to support legally protected or otherwise notable flora and fauna. Where suitable habitat was identified on site, a search was conducted for signs indicating the presence of protected species such as droppings, burrows, tracks and evidence of feeding. Where

species are not specifically evaluated, this indicates that no habitat of potential value for these species was identified during the survey.

2.10 Consideration was also given to habitats outside the site boundary, in order to evaluate the ecological context of the site within the wider landscape. Adjacent habitats were also considered with respect to their own ecological value and their potential to enhance the ecological value of habitats within the site.

2.11 Searches were made for invasive non-native plant species focussing on those species currently listed in the revised Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). Species were listed split into non-natives and invasive non-natives with different advice for each.

2.12 The plant species nomenclature follows that of Stace (2019). Plant species observed within each habitat type were recorded using the DAFOR system which stands for Dominant, Abundant, Frequent, Occasional or Rare.

2.13 All references to relevant literature required to maintain industry best practice and compliance with legislation is listed in the References section of this report.

Preliminary Roost Assessment (PRA)

2.14 The methods used in the Preliminary Roost Assessment were based on those recommended in English Nature's Bat Mitigation Guidelines (Mitchell-Jones 2004), the Joint Nature Conservation Committee's Bat Worker's Manual (Mitchell-Jones and McLeish 2004) and the Bat Conservation Trust's Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2024).

2.15 The suitability of the buildings to support roosting bats was assessed by examining structural features. Structural features that may influence the suitability of a building to support roosting bats include the presence of a roof void, the presence of access points into the building (including gaps beneath barge boards, soffits and fasciae, gaps under lead flashing, gaps within masonry and under loose tiles, gaps between mortise and tenon joints), the complexity and size of any roof void, daytime light ingress, and night time temperatures within a roof void.

2.16 The suitability of the buildings for roosting bats was also assessed by examining the surrounding habitat. Important habitat features surrounding the structure which may influence roost potential include whether the structure is in a semi-rural or parkland location, its proximity to significant linear habitat features such as a watercourse, mature hedgerow, wooded lane or an area of woodland.

2.17 Taking account of these architectural and habitat features, the buildings were then assigned a level of roost suitability based the criteria given in the Bat Conservation Trust's Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2024) and professional judgement. The primary objective of this exercise was to identify the need for further detailed bat surveys later in the year, or alternatively to obtain sufficient information that would dismiss the need for further assessment.

2.18 An external search around the perimeter of the buildings was conducted and any possible access points i.e. gaps and crevices were noted and investigated further where possible.

2.19 All surfaces were surveyed for signs of bat presence; as bat presence was ruled out a systematic internal inspection of the building for visual indicators of bat presence was conducted using a high-powered torch to illuminate areas to check for evidence of bats such as feeding remains or droppings.

2.20 Features of potential value to bats were surveyed not only for the presence of bats but also for signs that could indicate use by bats, such as:

- Bat droppings;
- Staining of access points used by bats to enter the structure; and
- Feeding remains such as moth and butterfly (Lepidoptera) wings.

Recommendation categorisation

2.21 So as to ensure biodiversity net gain for all development projects, the enhancement recommendations outlined in Section 6 of this report are categorised as Red, Amber or Green:

Red recommendations should be designated as conditions attached to a planning consent, and the development must not proceed without these enhancements / compensation measures being put in place, as they form a crucial role in achieving biodiversity net gain targets.

These recommendations are designed to be as effective and swift as possible, whilst taking into account cost and ease of implementation / future management in context with the scale of the development site.

Amber recommendations should be included within the development, however it is not necessary for them to be designated as conditions, as the author believes that their implementation is not key to achieving biodiversity net gain targets. The client / developer should seriously consider including these measures to improve the biodiversity value of the site and to reduce their carbon footprint.

These recommendations are designed to be a good balance between efficacy and cost efficiency.

Green recommendations are additional enhancements which would improve the biodiversity value of the site; however, they are not key to achieving biodiversity net gain targets. These recommendations are aimed at clients wishing to ‘go the extra mile’ with their site so as to improve visual impact, public engagement, and property value

These recommendations are often more costly, either financially or in terms of time input in context with the size of the site, however they can also deliver longer term benefits for a greater original outlay.

2.22 Recommendations are prioritised into the above categories taking into account multiple factors, including, but not limited to:

- Measurable impact on biodiversity net gain using the methodology of Biodiversity Metric

- Habitat classification factors utilised by the Natural England Biodiversity Metric; for instance, how valuable would the enhancements be from a habitat creation / modification perspective?
- Likelihood of the client to undertake or follow through with recommendations, and to maintain recommendations post-development [as appropriate]
- Ease and cost of implementation, such that high impact and swiftly effective recommendations are prioritised over slower or less easily maintained enhancements on smaller development sites
- Surveyor and author experience of effectiveness of enhancement features in areas similar to the site, such as on other sites nearby, or enhancements already implemented as a part of local designated-site management plans (such as AONB strategies)

3 RESULTS

Desk Study

3.1 Records of designated sites and European sites within 2 km of the site boundary were obtained from Multi Agency Geographic Information for the Countryside (MAGIC) website provided by the Department for Environment, Food and Rural Affairs (Defra).

Designated sites

3.2 There are no international/European designated sites within 2km of the proposed site.

3.3 There are no statutory designated sites located within 2km of the proposed development site.

3.4 The site is set within the High Weald AONB.

3.5 The site is not designated for its specific nature conservation interest, and the scale of development is such that it is unlikely to significantly affect local designated sites.

Designated habitats

3.6 The surrounding landscape includes a mix of residential land, deciduous woodland, pasture, and hedgerows

3.7 Further to this, the wider landscape contains two Habitats of Principal Importance (HPIs) covered under Section 41 of the Natural Environment and Rural Communities Act, consisting of deciduous woodland including ancient woodland, and traditional orchards.

Waterbodies

3.8 There are 4 waterbodies within 500m of the site. The 500m buffer is shown in Figure 3.1.

3.9 Waterbody 1 is located in a residential garden northeast of the site. It has low habitat connectivity due to intervening short sward grassland and the presence of Slaugham Lane, which may act as a barrier to amphibian dispersal. The pond appears to have little aquatic vegetation, reducing its suitability for breeding great crested newts.

3.10 Waterbodies 2 and 3 are located in a shared pasture field west of the site. While functionally connected to each other, their access to the development site is fully obstructed by Slaugham Lane and the site's half walled perimeter, creating a considerable dispersal barrier.

3.11 Waterbody 4 is located to the south-west and separated from the site by residential property, garden boundaries, and Slaugham Lane. It is considered functionally disconnected.

Biological Records

3.12 Following guidance contained within sections 5.5 and 6.2.1 of BS 42020:2013, it was deemed not necessary to obtain biological records from the local Biological Records Centre for the following reasons:

- Protected species impacts are predicted to be minimal.
- The site lies within a semi-rural landscape where habitat types and species presence can be reasonably inferred from desk study and field survey.
- Development can be contained within areas of lowest quality habitat, as existing habitats comprise predominantly built habitats with 'zero habitat value' with the remainder comprising a mixture of scrub and semi-improved grassland.
- While the proposed development is of moderate scale; ecological impacts are expected to be manageable through standard mitigation and enhancement measures outlined in this report.

3.13 Local records may be required at a later stage in development to further inform protected species presence in the wider landscape.

Field Study

Phase 1 Habitat Survey

3.14 The habitats present on site are shown in Figure 3.2 and are described in detail below.

3.15 The site at Warninglid Primary School comprises a former primary school and associated grounds. The main school building is centrally located, with hardstanding play areas, semi-improved grassland (former playing field), boundary hedgerows, and areas of developing scrub. The western boundary contains a strip of mature woodland, and individual trees are scattered throughout the site margins.

3.16 Habitats on site comprise buildings, hardstanding, scrub, semi-improved grassland, individual trees, hedgerows, and woodland.

Buildings

3.17 The buildings on site comprise the former Victorian primary school building and two ancillary outbuildings. The main school building is of brick construction, dating from the late 19th century, and includes both dual-pitched clay pan tile roofing and flat bituminous felt roof sections. It retains many original architectural features, including boxed and open soffits. Internally, the structure includes vaulted and flat-ceilinged voids, some of which are inaccessible due to plasterboard or boarding. The building is in generally good condition, and as such it displayed few features for roosting bats and was assessed as having low suitability for roosting bats.

3.18 The prefabricated site office and timber shed are both in average condition and offer negligible suitability for roosting bats. These buildings lack voids or accessible features and were excluded from further roost assessment.

Hardstanding

3.19 Hardstanding covers much of the central and northern parts of the site and includes tarmacadam play areas, pathways, and access routes. The surfaces are generally in fair condition, although some cracking and localised vegetation growth are present along edges and expansion joints.

Scrub

3.20 Scrub is primarily located along the eastern boundary of the site and in parts of the former playing field where encroachment has occurred. It is locally dominant, with an average height of approximately 2 m, and consists largely of blackthorn *Prunus spinosa* and bramble *Rubus fruticosus*, with some regenerating hazel *Corylus avellana*. The scrub has established from hedgerow runners and unmanaged edges and offers suitable habitat for nesting birds and small mammals.

Woodland

3.21 A narrow strip (approximately 8 m wide) of semi-natural broadleaved woodland is present along the south-western site boundary. The canopy is dominated by English oak *Quercus robur* and *beech Fagus sylvatica*, with a well-developed understorey of hazel coppice *Corylus avellana*, field maple *Acer campestre*, and holly *Ilex aquifolium.*

3.22 The field layer includes numerous ancient woodland indicator species, such as bluebell *Hyacinthoides non-scripta*, dog's mercury *Mercurialis perennis*, red campion *Silene dioica*, cow parsley *Anthriscus sylvestris*, bramble *Rubus fruticosus,* and honeysuckle *Lonicera periclymenum*. Some non-native garden escapes, including Spanish bluebell *Hyacinthoides hispanica*, daffodil *Narcissus spp*., and cherry laurel *Prunus laurocerasus*, are also present in low abundance.

Semi-improved grassland

3.23 The former playing field in the southern half of the site is now unmanaged and supports semi-improved neutral grassland. The sward is generally uniform, with an average height of 20–30 cm, and a cover of approximately 80% grasses and 20% forbs.

3.24 Dominant grass species include perennial ryegrass *Lolium perenne*, creeping bent *Agrostis stolonifera*, rough-stalked meadow grass *Poa trivialis*, and red fescue *Festuca rubra.*

3.25 Herbaceous species include cuckooflower *Cardamine pratensis*, dandelion *Taraxacum officinale*, meadow buttercup *Ranunculus acris*, soft rush *Juncus effusus*, and ribwort plantain *Plantago lanceolata*. Less frequent species include self-heal *Prunella vulgaris*, goat's rue *Galega officinalis*, cleavers *Galium aparine*, ground ivy *Glechoma hederacea*, and common knapweed *Centaurea nigra*.

Scattered trees

3.26 Scattered trees occur along the site margins and within the open grassland areas. Species include oak *Quercus robur,* silver birch *Betula pendula*, Leyland cypress *Cupressus leylandii*, domestic apple *Malus domestica*, hazel *Corylus avellana*, ash *Fraxinus excelsior*, cracked willow *Salix fragilis*, and Norway spruce *Picea abies*. None of the individual trees were considered to have notable ecological features, such as potential bat roosting features (PRFs) or cavities.

3.27 The southern boundary is lined with a continuous row of mature *Betula pendula*, which form a coherent linear canopy feature typical of a shelterbelt.

Hedgerows

3.28 A native species-rich hedgerow is present along the eastern boundary of the site. It comprises a mix of field maple *Acer campestre*, blackthorn *Prunus spinosa*, and hawthorn *Crataegus monogyna*, with occasional hazel *Corylus avellana*, oak *Quercus robur*, and ash Fraxinus excelsior. The hedgerow averages 2 m in height and has some gaps at the base but otherwise has a well-developed structure. Ash trees within the hedgerow exhibit approximately 90% canopy dieback, likely due to ash dieback.

Biodiversity Metric calculator from Natural England

3.29 To ensure compliance with the requirement for biodiversity net gain, a calculation was made using the Natural England 'Biodiversity Metric' calculator.

3.30 The biodiversity net gain calculation has been completed using area measurements gained from QGIS covering the whole red-line site boundary (Figure 3.2). The baseline is outlined in table 3.1. For clarity, the JNCC habitat type is listed next to the BM habitat type.

Table 3.1 – Existing baseline habitat areas and units:

Habitat type	Existing area (ha)[km]	Baseline habitat units
Urban – Developed land, sealed surface - *Buildings*	0.0705	0.00
Urban – Developed land, sealed surface - *Hardstanding*	0.116	0.00
Grassland – Other neutral – *Semi-improved grassland*	0.266	1.06
Heathland and shrub – Blackthorn scrub – *Scrub*	0.0175	0.07
Woodland – Other Broadleaved – woodland	0.0665	0.53
Urban tree – Individual trees (M)	0.0651	0.52

Urban tree – individual tree (L)	0.0366	0.29
Urban tree – Line of medium trees	0.04	0.16
Hedgerows – Native species rich hedgerow with trees	0.100	0.80
	TOTAL	3.44

3.31 Condition scoring was undertaken using the BM Technical Annex 1 condition score sheet. The results of which are outlined in Table 3.2.

Table 3.2 – Existing baseline habitat conditions:

Habitat type	Sheet	Condition	Justification
Urban – Developed land, sealed surface - *Buildings*	N/a	N/A - Other	Automatic N/A – Other condition due to type, no assessment required.
Urban – Developed land, sealed surface - *Hardstanding*	N/a	N/A - Other	Automatic N/A – Other condition due to type, no assessment required.
Grassland – Other neutral – *Semi-improved grassland*	6A	Poor	Scored 2 out of 6 points. Lost points due to: - Homogenous sward height - Poor species diversity, incl. species indicative of suboptimal condition - Scrub encroachment
Heathland and shrub – Blackthorn scrub – *Scrub*	20A	Poor	Scored 1 out of 5 points. Lost point due to: - Lack of woody species diversity and over 75% dominance of blackthorn. - Homogenous age and poor overall structure.
Woodland – Other broadleaved – *Woodland edge*	24A	Moderate	Scored 27 out of 39 points. Lost points to: - Presence of invasives - Lack of veteran trees or deadwood.
Urban tree – Individual trees (M)	9A	Moderate	- Default condition; trees of even structure and moderate health
Urban tree – individual tree (L)	9A	Moderate	- Large mature individual with no visible signs of decay or instability nor veteran features.

Urban tree – Line of medium trees	16A	Moderate	Scored 3 out of 5 points. Lost points to: - Lack of undisturbed buffer zone. - Lack of veteran trees.
Hedgerows – Species rich native hedgerow	8A	Good	Scored 8 out of a possible 8 points.

3.32 The new habitats that will be created are detailed in Table 3.3 below. This includes habitats that will be created by the development, such as the new buildings, hardstanding and grassland, as well as new habitats that should be created as a part of the compensation and enhancement process such as hedgerows.

Table 3.3 – New habitats created:

Habitat type	Created (ha area / km length)
Urban – Developed land – *Buildings*	0.0577
Urban – Developed land – *Hardstanding*	0.135
Urban – *Vegetated garden*	0.23

3.33 The full biodiversity metric calculation is shown in table 3.4 below.

Table 3.4 Biodiversity Metric - Habitats**:**

Habitat type	Baseline		Area		Units		Units enhanced
	Area (ha)	Habitat units	Kept (ha)	Enhanced (ha)	Kept	Lost	
Urban - Developed land; sealed surface	0.0705	0.00	0.0573	0	0.00	0.00	0.00
Urban - Developed land; sealed surface	0.116	0.00	0	0	0.00	0.00	0.00
Grassland - Other neutral grassland	0.266	1.06	0	0	0.00	1.06	0.00
Heathland and shrub - Blackthorn scrub	0.0175	0.07	0	0	0.00	0.07	0.00
Woodland and forest - Other woodland; broadleaved	0.0665	0.53	0	0.0565	0.00	0.08	0.45
Individual trees - Urban tree	0.0651	0.52	0.0651	0	0.52	0.00	0.00
Individual trees - Urban tree	0.0366	0.29	0.0366	0	0.29	0.00	0.00
-	0	0.00	0	0	0.00	0.00	0.00
-	0	0.00	0	0	0.00	0.00	0.00
-	0	0.00	0	0	0.00	0.00	0.00
-	0	0.00	0	0	0.00	0.00	0.00
-	0	0.00	0	0	0.00	0.00	0.00
-	0	0.00	0	0	0.00	0.00	0.00
Sub-total		**2.48**	**0.16**	**0.06**	**0.81**	**1.21**	**0.45**

Hedgerow type	Baseline		Length		Units		Units enhanced
	Length (km)	Hedgerow units	Kept (km)	Enhanced (km)	Kept	Lost	
Line of trees	0.04	0.16	0.04	0	0.16	0	0

Species-rich native hedgerow	0.1	0.8	0.1	0	0.8	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
Sub-total		**0.96**	**0.14**	**0**	**0.96**	**0**	**0**
TOTAL		**3.44**		**TOTAL**	**1.77**	**1.21**	**0.45**

Habitat units

The site currently supports 2.48 habitat units. Development of the site will result in the loss of 0.62 habitat units, leaving 1.86 units post-development. To achieve the required 10% biodiversity net gain, the proposed habitats (including creation, compensation, and enhancement) must deliver a minimum of 0.248 additional habitat units, resulting in a total of 2.728 units.

Hedgerow units

The site currently supports 0.86 hedgerow units. Development of the site will result in no loss of hedgerow units, with 0.86 units retained post-development. To achieve the required 10% biodiversity net gain, the proposed habitats (including creation, compensation, and enhancement) must deliver a minimum of 0.086 additional hedgerow units, resulting in a total of 0.946 units.

Watercourse units

There are no watercourses on site.

Table 3.5 Biodiversity Metric – Unit creation**:**

Habitat type	Created (ha area / km length)	Habitat units created
Urban – Developed land – *Buildings*	0.0577	0
Urban – Developed land – *Hardstanding*	0.135	0
Urban – *Vegetated garden*	0.23	0.4439
	Sub-total	0.44

Table 3.6 Biodiversity Metric – Net change**:**

Net change - On site						
Site baseline:		**Post intervention:**		**Percentage change:**		**Legislatively compliant?**
Habitat units	2.48	Habitat units	1.86	Habitat units	-25.00%	**No - Offsite trading required**
Hedgerow units	0.96	Hedgerow units	0.96	Hedgerow units	0.00%	
River units	0	River units	0	River units	0%	

3.34 In total, the scheme fails to achieve biodiversity net gain for habitats within the development site. There is limited functional space on site for biodiversity enhancements, due to the footprint of the proposed development and the layout of retained habitats. As such, it is not possible to achieve biodiversity net gain on site alone. As such, off-site enhancement will be required.

3.35 An off-site biodiversity enhancement site has not yet been secured and will need to be engaged prior to development commencing.

3.36 To meet the statutory 10% biodiversity net gain requirement, the scheme will require off-site habitat enhancement or the purchase of biodiversity credits. The overall uplift required to reach compliance is:

- +0.25 habitat units
- +0.09 hedgerow units

Reason: To meet habitat trading conditions due to the area of habitat lost on-site.

Off-site

BNG unit context – Off-site enhancement.

3.1 The following tables discuss the level of off-site enhancement that would be required should the client opt for off-site enhancement of an area of land within ownership rather than third party unit purchase. For clarity, they are highlighted in Blue.

3.2 These figures have not been included in the biodiversity metric assessment as they are currently speculative.

Table 3.8 – Off-site units

Habitat type	Baseline		Area		Units		Units enhanced
	Area (ha)	Habitat units	Kept (ha)	Enhanced (ha)	Kept	Lost	
Grassland - Other neutral grassland	0.266	1.064	0	0.266	0	0	1.064
Woodland and forest - Other woodland; broadleaved	0.07	0.28	0	0.07	0	0	0.28
Heathland and shrub - Blackthorn scrub	0.02	0.08	0	0.0175	0.01	0	0.07
Sub-total		**1.42**	**0**	**0.35**	**0.01**	**0**	**1.41**

Hedgerow type	Baseline		Length		Units		Units enhanced
	Length (km)	Hedgerow units	Kept (km)	Enhanced (km)	Kept	Lost	
Native hedgerow	0.1	0.2	0.07	0.03	0.14	0	0.06
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
Sub-total		**0.2**	**0.07**	**0.03**	**0.14**	**0**	**0.06**
TOTAL		**1.62**		**TOTAL**	**0.15**	**0**	**1.47**

Unit

Original habitat	Condition	Enhanced to	Enhanced condition	Area (ha)	Unit yield
Grassland - Other neutral grassland	Poor	Grassland - Other neutral grassland	Good	0.266	2.31104
Woodland and forest - Other woodland; broadleaved	Poor	Woodland and forest - Other woodland; broadleaved	Good	0.07	0.55462
Heathland and shrub - Blackthorn scrub	Poor	Heathland and shrub - Blackthorn scrub	Good	0.0175	0.16804
				Sub-total	3.03
				Subtract original habitat units:	1.42
				Sub-total	1.61
				Add post-development on-site units	+1.86
				TOTAL	3.47

Original hedgerow	Condition	Enhanced to	Enhanced condition	Length (km)	Unit yield
Native hedgerow	Poor	Species-rich native hedgerow	Low - Medium	0.03	0
				Hedgerow enhancement subtotal:	0
				Unit enhancement TOTAL:	3.03

Table 3.9 Biodiversity Metric – enhancement – Off site

Original habitat	Condition	Enhanced to	Enhanced condition	Area (ha)	Unit yield
Grassland - Other neutral grassland	Poor	Grassland - Other neutral grassland	Good	0.266	2.31104
Woodland and forest - Other woodland; broadleaved	Poor	Woodland and forest - Other woodland; broadleaved	Good	0.07	0.55462
Heathland and shrub - Blackthorn scrub	Poor	Heathland and shrub - Blackthorn scrub	Good	0.0175	0.16804
				Sub-total	3.03
				Subtract original habitat units:	1.42
				Sub-total	1.61
				Add post-development on-site units	+1.86
				TOTAL	3.47

Original hedgerow	Condition	Enhanced to	Enhanced condition	Length (km)	Unit yield
Native hedgerow	Poor	Species-rich native hedgerow	Low - Medium	0.03	0
				Hedgerow enhancement subtotal:	0
				Unit enhancement TOTAL:	3.03

Table 3.10 Biodiversity Metric – Net change – With Off-site Enhancement:

Site baseline:		Post intervention:		Percentage change:		Legislatively compliant?
Habitat units	2.48	Habitat units	3.42	Habitat units	10.75%	**Yes ✓**
Hedgerow units	0.96	Hedgerow units	0.9	Hedgerow units	11.77%	
River units	0	River units	0	River units	0.00%	

3.3 In total, the project can biodiversity net gain for habitats through a mixture of on-site and off-site enhancement.

What needs to happen?

On-site

- Enhancement of 0.0565 ha of *other woodland; broadleaved* from moderate to good condition through species diversification, removal of non-native species, encouragement of an NVC community, retention of deadwood where possible, and improving structural heterogeneity. For this enhancement to be eligible in the biodiversity metric, the woodland must be retained outside of individual residential curtilage and secured under a long-term management agreement.
- Retention of 0.1017 ha of individual urban trees, 0.14 km of hedgerow (species-rich native hedgerow and line of trees), and 0.0573 ha of developed land; sealed surface, all maintained at baseline condition within curtilage.
- Loss of 0.266 ha of *other neutral grassland* and 0.0175 ha of *blackthorn scrub*, replaced with *vegetated garden* within residential curtilage.

As such, these elements should be a condition of planning consent, as without them achieving net gain and satisfying trading conditions is not possible.

Off-site -

- Enhancement of 0.266 ha of *other neutral grassland* from poor to good condition (equivalent to 1.61 habitat units), or the purchase of the same number of units from a higher distinctiveness habitat.
- Enhancement of 0.07 ha of *other woodland; broadleaved* from poor to good condition (equivalent to 0.43 habitat units), or the purchase of the same number of units from a higher distinctiveness habitat.
- Enhancement of 0.0175 ha of *blackthorn scrub* from poor to good condition (equivalent to 0.09 habitat units), or the purchase of the same number of units from a higher distinctiveness habitat.
- Enhancement of 0.03 km of *native hedgerow* from poor to species-rich native hedgerow (low–medium condition) (equivalent to 0.14 hedgerow units), or the purchase of the same number of hedgerow units from a higher distinctiveness hedgerow type.

OR

- Purchase the equivalent number of biodiversity units required to offset the identified losses (1.61 habitat units for grassland, 0.43 habitat units for woodland, 0.09 habitat units for scrub, and 0.14 hedgerow units), or the same total units from habitats of higher distinctiveness.

  These figures are speculative and based on the current biodiversity metric outputs. They will require confirmation once an off-site delivery site is identified and baseline condition surveys are completed.

Other information

3.4 The calculation takes in lots of information including about the surroundings of the site, as outlined above. However, it does not take account of any enhancement works to the buildings, bat / bird boxes, or other green initiatives discussed with the client.

3.5 A brief explanation of how conditions of existing habitats will be improved to achieve the enhancement criteria is detailed in Section 6 of this report, with further detail provided as a part of a Habitat Management and Monitoring Plan (HMMP) at a later stage.

Biodiversity Net Gain Principles check

3.6 The above has been guided by the Biodiversity Net Gain Principles as set out by DEFRA in the Statutory Biodiversity Metric User Guide. Table 3.11 lists all of the principles, with a description of how the principles have been applied to this assessment.

Table 3.11: Application of the Biodiversity Net Gain Principles to the Proposals

Principle	Indicators
Principle 1: Apply the Mitigation Hierarchy	Biodiversity losses are affecting a very small area and do not affect any high or very high distinctiveness habitats. All losses are compensated on Site.
Principle 2: Avoid losing biodiversity that cannot be offset by gains elsewhere	No irreplaceable habitats are proposed to be affected.
Principle 3: Be inclusive and equitable **Principle 4**: Address risks	The proposals have aimed to provide realistically achievable benefits for nature conservation within the confines and proposed use of the Site, based on sound ecological judgement and experience and in the context of the local planning and policy guidance.
Principle 5: Make a measurable Net Gain contribution **Principle 6**: Achieve the best outcomes for biodiversity	A +10% net gain that meets the metric requirements has been achieved as set out in the report. Strategic significance has been considered, as set out in this report. Habitats will be created that are suitable and appropriate for the use of the Site and its surrounding context.
Principle 7: Be additional	Proposals include new habitat creation and ecologically driven changes to existing habitat management.
Principle 8: Create a Net Gain legacy **Principle 9**: Optimise sustainability **Principle 10**: Be transparent	Proposals are appropriate to the Site and its context. This document will inform future management provision for the Site. Management provision should be secured in the long-term to ensure that the target conditions can be achieved.

Protected Species

3.7 The habitats present on site provide suitable potential to support a range of protected species including badgers, bats, breeding birds, dormice, great crested newts and reptiles. These species are considered in greater detail below, along with protected species for which the habitats on site are suboptimal or unsuitable.

Bats

Roosting

Trees

3.8 A full Ground Level Tree Assessment (GLTA) for bats was not within the scope of this survey; however, a brief assessment of trees and shrubs on site was undertaken. Most trees are semi-mature and unlikely to support roosting bats due to their age and structure. One mature oak was noted on site which exhibited ivy cover and limited structural complexity. No woodpecker holes, cavities, or lifted bark were observed, and the trees are not affected by the development.

Buildings

3.9 The results of the PRA survey are detailed in Figure 3.2 and Table 3.11 below.

Table 3.11: Preliminary Roost Assessment Survey results

Building Number/ Reference	Building Description	Suitable Bat Roost Features	Direct evidence of Roosting Bats?	Suitability to Support Roosting Bats
1	Building 1 comprises a sprawling former primary school building in centre of site. Late 19th century construction with multiple modern editions. The entire building is constructed of brick in a neo gothic and contemporary style with a mixture of multi-aspect duel pitched roofing, with a concrete pan tile covering and flat sections of bituminous roofing felt. The building retains many ornate features typical of its time. The flat roofed sections have intact box soffits with older pitched sections having open soffits with some overhang. Internally the roof is derelict but well maintained and most windows have been boarded. Roof structure comprises a flat tiled ceiling in flat sections, whilst older sections have a mixture of covered voids sections with some sections vaulted with plasterboard preventing full inspection. Roof is constructed of timber common rafters, with plywood barge boards and likely has bituminous sarking beneath. Overall, the building is in good condition with minimal damage/tyle slippage. Its size is such that bats could utilize the building and as bat absence could not be confirmed during the PRA this necessitates a low suitability score.	Low-quality features, including roof timbers, gaps beneath roof tiles, and boxed/open soffits. Several internal voids remain inaccessible due to plasterboard or ceiling finishes.	None	**Low suitability** - The building contains a limited number of low-quality features suitable for use by roosting bats but lacks a combination of features or evidence to suggest much potential.

2	Building 2 comprises a prefab temp office building. It is constructed of pre-fabricated panels with a flat bituminous felt roof. It has no soffits and no void. Overall average condition, as such has negligible suitability for bats.	None	None	**Negligible suitability -** due to its construction style with no roosting features, and no proper void.
3	Building 3 comprises a timber shed, with duel pitched felt roof,	None	None	**Negligible suitability -** due to its construction style with no roosting features, and no proper void.

Commuting and foraging

3.10 The habitats within the site boundary provide some foraging and commuting opportunities for bats through semi-improved grassland, boundary hedgerows, and scattered trees.

Opportunities in the wider landscape

3.11 The wider landscape is predominantly rural, and as such bat roosting opportunities are likely to be present within the wider landscape in older trees and buildings.

Evidence

3.12 No evidence of bats was recorded during the surveys

Badgers

Commuting and access

3.13 Access for badgers is considered to be limited due to the presence of boundary walls, fencing, and dense hedgerow enclosing much of the site. These features present partial barriers to movement, although some gaps or permeable points may exist.

Foraging

3.14 The site provides limited habitat for badgers, as there are few foraging opportunities due to a lack of food plants or small mammals.

Sett building

3.15 Sett-building opportunities are low, constrained by the built nature of the site, including large areas of hardstanding, and buildings or walls with deep foundations. Ground conditions do not favour digging.

Opportunities in the wider landscape

3.16 Badger populations, whilst widespread, are likely scattered.

Evidence

3.17 No evidence of badgers was recorded during the survey.

Breeding birds

Evidence

3.18 An abundance of songbirds was recorded during the survey, with species being both heard and seen. Species recorded included blackbird *Turdus merula*, blue tit *Cyanistes caeruleus*, great tit *Parus major*, robin *Erithacus rubecula,* jackdaw *Corvus monedula*, house sparrow *Passer domestica*, and starling *Sturnus vulgaris*. Additionally, a greater spotted woodpecker *Dryobates major* was heard calling from nearby woodland.

Nesting / roosting

3.19 No intact or defunct nests were discovered during the survey.

3.20 All of the habitats on site provide nesting opportunities for breeding birds, with further opportunities found within the wider landscape.

Foraging

3.21 Fruiting bodies on hedgerow and boundary trees, along with invertebrates in the grassland and woodland edge, offer ample foraging opportunities, particularly for larger bird species such as blackbirds and thrushes.

Dormice

Evidence

3.22 No signs of dormice were recorded during the survey.

Key features for survival

3.23 The site provides a sub-optimal number of suitable features to support dormice.

3.24 A small area of hazel coppice and honeysuckle (Lonicera periclymenum) is present within the woodland edge in the south-western corner, alongside a native hedgerow along the eastern boundary. However, these features are small in extent, isolated from one another, and do not form the diverse, well-connected structure typically required by dormice.

3.25 The site provides some native fruit bearing species, and the centre of the site lacks an appropriate level of cover for dormice.

Connectivity

3.26 Connectivity within the site is poor, with no canopy linkage across the open central grassland. Although some linear woody habitat exists along the site boundaries, it is not continuous or structurally complex enough to facilitate dormouse movement.

Opportunities in the wider landscape

3.27 Although few hedgerows are present in the wider landscape, those that do exist are generally of good quality. However, they are not directly connected to the habitats within the site, and there is no functional ecological corridor linking the site to off-site woodland or hedgerow networks.

3.28 While the site is located in a rural area, the lack of extensive woody vegetation on site, combined with poor habitat connectivity, makes it unlikely that dormice are present or regularly use the site.

Great crested newts

Evidence

3.29 No signs of great crested newts were recorded during the survey.

Breeding habitat

3.30 There are no waterbodies on site.

3.31 A total of four waterbodies are located within 500 m of the site. All four are separated from the development area by significant physical barriers, including Slaugham Lane, residential gardens, fields of short sward grassland and the site's walled and fenced boundary. These barriers severely restrict the ability of amphibians to disperse to or from the site.

Terrestrial habitat

3.32 Terrestrial habitat quality on site is generally poor. Grassland areas are homogenous and unmanaged, offering little cover, and much of the scrub has been cleared or suppressed. Suitable terrestrial habitat is largely limited to the woodland edge and dense vegetation along site boundaries.

3.33 Foraging and commuting habitat is therefore limited to the most densely vegetated habitats.

Hibernation habitat

3.34 There is some hibernation habitat on site in the nooks and crannies within tree and hedge roots.

Connectivity, wider landscape, and access

3.35 Access to the site for newts is considered highly unlikely due to significant barriers to dispersal, effectively isolating the site from any nearby aquatic habitat.

Hedgehog

Evidence

3.36 No signs of hedgehog were recorded during the survey.

Key features for survival

3.37 The site provides limited habitat suitable to support hedgehogs with few features key for their survival. These features include:

- Areas of tall grass or vegetation, or leaf litter offering a supply of invertebrates such as slugs and snails
- Gaps in fences, walls or hedgerows that allow movement between areas of higher quality habitat.
- Suitable hibernation sites, such as log piles, unlit bonfires, compost heaps, or other natural debris accumulations
- Dense undergrowth and scrub providing cover from predators and shelter for nesting
- Freshwater sources such as ponds, ditches, or damp areas that support invertebrates and provide drinking water

Connectivity

3.38 Connectivity within the site is poor, with large areas of open grassland and minimal linear cover. The fencing and walling around much of the site further restrict movement, and few sheltered corridors exist to allow safe passage for hedgehogs.

Opportunities in the wider landscape

3.39 The wider landscape is predominantly rural, with surrounding fields, woodlands and occasional gardens, which could offer higher-quality habitat for hedgehogs.

3.40 While hedgerows are not abundant in the immediate vicinity of the site, those present are of good structural quality. However, they are not directly connected to on-site features and do not create a functional movement corridor.

3.41 As such, although there may be suitable habitat in the wider landscape, the site itself is considered to be of low value to hedgehogs, with limited likelihood of regular use.

Reptiles

Evidence

3.42 No signs of reptiles were recorded during the survey

Basking, commuting and foraging habitat

3.43 The site provides limited suitable habitat for reptiles. Areas of semi-improved grassland, particularly where they border scrub and woodland edge, offer basking and foraging opportunities. Vegetation structure across most of the site is relatively uniform, however reptiles are adaptable and may use edge habitats and ecotones.

Hibernation habitat

3.44 There is some hibernation habitat on site in the nooks and crannies within tree and hedge roots.

Connectivity, wider landscape, and access

3.45 The site lies within rural landscape containing woodland and rough grassland, which offer higher quality reptile habitat. However, the site itself is partially enclosed by walls and fencing, and its internal layout does not provide a strong connective corridor to off-site habitats. As such, while reptiles could use the site occasionally or transiently, the likelihood of a sustained population is low.

Other species

3.46 There are no other species of note present on site.

4 EVALUATION

Habitats

4.1 The habitats present on site are of average ecological quality and comprise locally abundant species typical of the wider landscape.

Protected species legislation

4.2 Protected species legislation, its importance, and the penalties that would be incurred if an offence were committed are summarised in Appendix A of this report. This section provides information on which species could be affected by any proposed development of the site.

Species – Constraints vs. suitability

This section discusses two separate issues;

- **Habitat suitability** and **species constraints** whereby a protected species has the potential to pose a constraint on a development. In this case, mitigation may be required to negate the risk of an offence being committed, along with phase 2 species specific surveys to further analyse such a threat.
- **Future potential** to support protected species, i.e. whether prudent habitat management can be targeted towards a species to improve the biodiversity value of the development site and contribute towards Biodiversity Net Gain (BNG) targets.

Activities that present species-specific risks are outlined for each species in the tables below, along with the following information:

- Whether that species is likely to pose a constraint to the development – **"Works Constrained?" – Yes / No / Discounted**

  Yes – Special mitigation will be required, such as additional surveys, special control measures, or changes to the design to mitigate otherwise unacceptable impacts, as outlined in Section 6.

  No – The species does not pose a constraint subject to the application of 'Standard mitigation' measures as outlined in Section 6. No special mitigation required.

  Discounted – Whilst there is no guarantee, the surveyor has used the evidence gathered to confirm likely absence of this species, and no specific mitigation will be required. No further action will be required for this species, and it will not be individually covered in Section 6. These species are still protected, and any changes to their status may result in mitigation being required.

Bats

4.3 All species of bat present in the UK receive full protection under The Conservation of Habitats and Species Regulations 2017, and the Wildlife and Countryside Act 1981 (as amended).

Roosting

Buildings

4.4 The site is considered to have low suitability to support roosting bats, with Building 1 displaying limited features and no direct evidence of bats recorded during the PRA. As a result, further survey work will be required prior to works commencing.

Trees

4.5 No trees on site were identified as supporting features typically associated with roosting bats. All trees were classed as negligible or low suitability, and no tree removal is proposed.

Commuting and foraging

4.6 The site offers limited commuting and foraging habitat, with potential activity concentrated along boundary features and the woodland edge.

Future potential

4.7 As the site has potential to support bats, they are considered further in Section 6 of this report as enhancements for bats will be required to ensure biodiversity net gain due to the fact habitat will be lost.

Works constrained?	Yes

Activity	Further works required
Building demolition	Further survey(s)
Tree removal / pruning	Standard mitigation
Lighting design	Sensitive lighting scheme

Badgers

4.8 Badgers receive full protection under the Protection of Badgers Act 1992.

Current usage

4.9 No badger activity was recorded on site during the survey; badgers could utilise the site for foraging as a part of a larger territory.

Connectivity, foraging and sett building

4.10 The site offers limited foraging opportunities and poor connectivity due to fencing, walling and roads restricting access. The built and developed nature of the site and lack of soft, undisturbed ground limit its value for sett building.

Future potential

4.11 The site is unlikely to support resident badgers or sett construction in the future. Badger activity in the wider landscape is expected to remain confined to areas of higher-quality habitat beyond the development boundary.

Works constrained?	No

Activity	Further works required
Demolition	Standard mitigation
Construction	Standard mitigation
Post-development	Standard mitigation

Breeding birds

4.12 Breeding birds are protected by the Wildlife and Countryside Act 1981 (as amended). Under this legislation it is an offence to intentionally kill, injure or take birds or their eggs, or to intentionally destroy or disturb a nest, when it is in use or being built.

4.13 Failure to observe mitigation measures leading to birds being disturbed whilst nesting would constitute a criminal offence.

Current usage

4.14 All of the habitats on site provide foraging and nesting opportunities for breeding birds.

Future potential

4.15 Birds were recorded on site, therefore the loss of habitat for birds will need to be compensated for, and habitats remaining post-development must be enhanced to ensure biodiversity net gain is achieved.

Works constrained?	No

Activity	Further works required
Demolition	Standard mitigation
Vegetation clearance	Standard mitigation
Post-development	Standard mitigation

Dormice

4.16 Hazel dormice are protected by the Wildlife and Countryside Act 1981 (as amended). Under this legislation it is a criminal offence to intentionally or accidentally harm, capture, or destroy dormice, or to disturb a breeding area.

Current usage

4.17 No signs of dormice were recorded during the survey.

Foraging, connectivity and hibernation

4.18 Dormice generally require large areas of connected ancient woodland with healthy, stratified vegetative layers providing a heterogeneous habitat (Bright et al., 2006). They also utilise hedgerows to a lesser extent, particularly for foraging and commuting and less so for nesting. This heterogeneous habitat is not provided by the site.

4.19 Although a native hedgerow and woodland edge are present, these will be retained under current proposals and are not functionally connected to any known dormouse habitat. Foraging resources on site are scarce, and the central grassland lacks the floral and shrubby diversity required to support the species.

4.20 Based on the absence of suitable habitat and structural isolation, dormouse presence can be ruled out within the development footprint.

4.21 Dormouse presence in the wider landscape is considered possible due to the areas of woodland present.

Future potential

4.22 The site is unlikely to support dormice in the future due to its limited woody habitat and ongoing amenity use. As such, dormice are not considered further in this report.

Works constrained?	Discounted

Activity	Further works required
Vegetation clearance	None
Post-development	None

Great crested newts

4.23 Great crested newts are protected by the Wildlife and Countryside Act 1981 (as amended). Under this legislation it is a criminal offence to intentionally or accidentally harm, injure or destroy great crested newts or their eggs.

Current usage

4.24 No signs of great crested newts were recorded during the survey.

4.25 Four waterbodies were identified within 500 m of the site. However, all are disconnected due to the presence of Slaugham Lane, boundary walling, and fencing. The likelihood of newts entering the site is therefore considered low.

Foraging, connectivity, breeding and hibernation

4.26 Terrestrial habitats on site, including grassland and scrub, are generally unsuitable for newts due to their homogenous structure, limited sward height, and isolation from aquatic features.

4.27 There are no waterbodies on site to support breeding, and the surrounding barriers prevent access to any off-site ponds. The grassland and woodland edge are of limited value for foraging or commuting, and no suitable features for hibernation were recorded.

4.28 There are some limited hibernation opportunities present on site, particularly at the bases of hedgerows, within the woodland edge, and around tree root systems. However, these features are scattered and not extensive.

Future potential

4.29 The site is unlikely to support great crested newts in the future due to the absence of breeding habitat, the poor quality of terrestrial features, and isolation from functional aquatic sites. As such, the site is considered to be of negligible value to this species.

Works constrained?	**No**

Activity	**Further works required**
Vegetation clearance	Standard mitigation
General ground works	Standard mitigation

Hedgehogs

4.30 Hedgehogs are a species of principal importance under the NERC Act 2006.

4.31 Hedgehogs are also protected from capture or killing by certain methods by the Wildlife and Countryside Act 1981 (as amended).

Current usage

4.32 No signs of Hedgehogs were recorded during the survey.

Foraging, connectivity and hibernation

4.33 Hedgehogs generally require a mosaic of interconnected habitats, including woodland edges, hedgerows, grasslands, and gardens, which provide shelter, foraging opportunities, and nesting sites (Morris, 2006). They rely on dense undergrowth, leaf litter, and log piles for nesting and hibernation, as well as varied vegetation supporting a rich supply of invertebrates. While hedgerows can serve as important corridors for movement and foraging, they are less commonly used for nesting.

4.34 The site does not provide the structural diversity or connectivity required to support resident hedgehogs.

4.35 Some areas of dense vegetation and the woodland edge may be used opportunistically as part of a wider hedgehog territory but are insufficient in size or connectivity to sustain regular use.

4.36 There are limited hibernation opportunities within the piles of brash, logs and leaf litter on site.

4.37 Due to the site's poor connectivity and absence of corridors to wider habitat, hedgehog presence on site is considered unlikely.

4.38 Hedgehog presence in the wider landscape is considered to be possible due to the areas of woodland present.

Future potential

4.39 Hedgehogs are unlikely to utilise the site in future due to its continued amenity use. Therefore, they are not considered further in this report.

Works constrained?	**No**

Activity	**Further works required**
Vegetation clearance	Standard mitigation
Construction	Standard mammal mitigation RE. construction materials and holes etc.
Post-development	Standard bonfire and hibernation habitat clearance precautions

Reptiles

4.40 All species of reptile are protected by the Wildlife and Countryside Act 1981 (as amended). Under this legislation it is a criminal offence to intentionally or accidentally harm, injure or destroy reptile species or their eggs.

Current usage

4.41 No signs of reptiles were recorded during the survey.

Foraging, connectivity, basking and hibernation

4.42 The habitats on site are considered to provide limited opportunities for reptiles, as although the habitats on site are all of a relatively short sward height, some areas of scrub, boundary vegetation, and woodland edge offer potential for basking and foraging.

4.43 The site is located within a rural landscape and has some connectivity to wider countryside habitats, where reptiles are likely to be present. While the site is small and fragmented, the presence of reptiles cannot be ruled out.

Future potential

4.44 Reptiles may continue to use the site on a transitory basis, particularly along its boundaries. The development is not expected to significantly reduce available habitat.

Works constrained?	**No**

Activity	**Further works required**
Vegetation clearance	Standard mitigation
General ground works	Standard mitigation

Biodiversity Metric

4.45 The existing habitats on site are predominantly semi-improved grassland, blackthorn scrub, and woodland edge, with a relatively low to moderate biodiversity value due to uniform structure, limited species diversity, and patchy condition. The proposed development will result in the loss of these habitats, alongside sealed surfaces and buildings.

4.46 Due to the loss of 1.17 habitat units associated with grassland and scrub, and the requirements of the BNG trading rules, it will be necessary to deliver off-site enhancement of equivalent or better-quality habitat to meet statutory requirements. A total uplift of 1.29 units is required, representing a 10% net gain over baseline. On-site provision is limited, and therefore, the use of off-site land or statutory credits will be required to achieve compliance.

Limitations of the BMA

4.47 The Biodiversity Metric Assessment (BMA) system was devised by Natural England in 2021 as a part of the new Environment Act 2021 legislation. It has been designed to enforce a mandatory 10% biodiversity net gain such that developments are proportionately compensated for based upon the value of the habitats that were originally there.

4.48 Different elements are considered within the BMA such as the habitats rarity (how much there is in the UK), its distinctiveness (how different is it to other habitats), and its condition (how representative of the 'ideal' it is). These elements affect the 'value' of the habitats concerned.

4.49 As such, the BMA provides a method for comparing the pre-development baseline and the post-development 'value' of a site, and also for comparing two separate sites.

4.50 However, the system is imperfect as the BMA is a mathematical approach that is used to standardise an issue that cannot always be standardised due to the complexity and nuances of ecology. Some limitations of the system are outlined below:

- The tool uses Natural England's habitat classifications, rather than those outlined in the JNCC Phase 1 Habitat Survey Guidelines used by Stace et al as a part of the PEA methodology. Whilst this isn't a direct issue, it does mean that habitats have to be put into their category of best fit;
- Not all enhancements are directly supported, including things such as bat roof voids, bat and bird boxes, and wildflower planting – whilst the latter is indirectly encouraged through grassland encouragement, more urban sites can have this element overlooked. Therefore, the biodiversity value of the development could be artificially lower as the author has had to put enhancements in the category of best fit within the metric, or miss them entirely;
- The system relies on units which, although chosen and calculated by a committee of Natural England staff, can be perceived as arbitrary. This is because of the complexity and nuances of the field of ecology, and the fact that a mathematical approach cannot encompass and summarise a site in its entirety.

- The metric doesn't take into account the grey area of how, or in what way, a habitat is lost as some methods of loss are more destructive to biodiversity than others, whereas others would not necessarily be counted as a 'loss', but more of a change;
- Some man-made habitats such as 'Artificial un-vegetated, unsealed surface' i.e. hardstanding are considered to have 'very low' biodiversity value such that they require no form of loss based compensation, despite the fact that industry best practice states that herptiles can utilise these areas as basking habitat.

4.51 Despite these limitations, the metric has provided a means of quantifying the enhancement *potential* of a development and removes bias that could otherwise skew the impact of the development in the developer's favour.

4.52 The metric results provided are for indicative purposes only, and do not provide an accurate representation or guarantee of biodiversity success and should only be used for comparative purposes at this stage. Further works will be required to secure these enhancements for the BNG period of 30 years.

4.53 Successful implementation of the enhancements contained within this report will however guarantee an increase in biodiversity compared with a development with no associated enhancements.

Other Items

4.54 There are no other items of note.

5 CONCLUSION

Site summary

5.1 The proposed development site is currently considered to have low to moderate ecological value within a local context as it comprises predominantly hardstanding and buildings, with natural habitats confined to boundary features and smaller green areas.

5.2 The biodiversity value of the total site area is largely attributed to the following factors:

- The dominance of sealed surfaces and built structures, which have no ecological value.
- The presence of some higher-quality habitat, namely the species-rich hedgerow and woodland edge along the southern and western boundaries.
- The poor connectivity between on-site habitats and the wider landscape.

Development proposals

5.3 Development plans on site comprise

- The conversion, extension and renovation of the former school buildings into residential units.
- The Demolition of buildings 1 and 2 and erection of 2 new dwellings.

Species likely present

5.4 In the absence of mitigation, the current development proposals have the potential to affect protected species. To reduce the risk of an offence being committed, recommendations are outlined in Section 6 of this report. These should be followed to ensure that any potential impacts to protected species are adequately addressed during the planning stage, development and post-development stage.

5.5 The following species require no specific mitigation, and can be discounted from future consideration:

- Dormice

5.6 The following species require ‘standard’ mitigation, such that subject to application of a combination of non-site-specific measures, a precautionary approach, and toolbox talks no impacts are predicted on these species:

- Bats
- Badgers
- Breeding birds
- Great crested newts
- Hedgehogs
- Reptiles

5.7 The following species required additional mitigation measures, being a combination of additional surveys and / or additional site-specific mitigation measures due to the fact that the development presents unique risks to them:

Bats: One (1) dusk emergence or dawn re-entry survey is required between May and September, when weather conditions are suitable, to confirm the presence or likely absence of roosting bats within Building 1 prior to any works.

6 RECOMMENDATIONS

6.1 The quality of the habitats that could be affected and their potential to support protected and notable species is such that without mitigation, the development has the potential to harm, injure, kill or disturb protected or notable species.

6.2 These recommendations are therefore mitigative and are designed to work on a worst-case scenario basis, and to offer biodiversity enhancements to benefit the local area by attracting species in.

6.3 Section 6 discusses two separate elements:

- Species specific mitigation measures for those species that would otherwise be at risk of injury, death, or legislative breach without mitigation measures
- Biodiversity enhancement measures to achieve Biodiversity Net Gain.

Species specific mitigation measures

Bats

All of the habitats on site have the potential to support foraging and commuting bats.

Bats are considered to be likely absent from the buildings on site, and as such works can proceed without hindrance under a precautionary approach to comprise the following:

Further Surveys

One (1) dusk emergence survey is essential in accordance with bat survey guidelines.

This should be undertaken during the optimal survey period (May to September) when bats are most active. The survey will help determine the presence or likely absence of roosting bats within the building and inform any further mitigation or licensing requirements, if necessary.

Timings

Works to the buildings are to commence during the active season of April to September inclusive so that should bats be found during the works, they can be successfully relocated under licence to a bat box as moving bats during hibernation season presents serious risks to their survival.

Toolbox talk

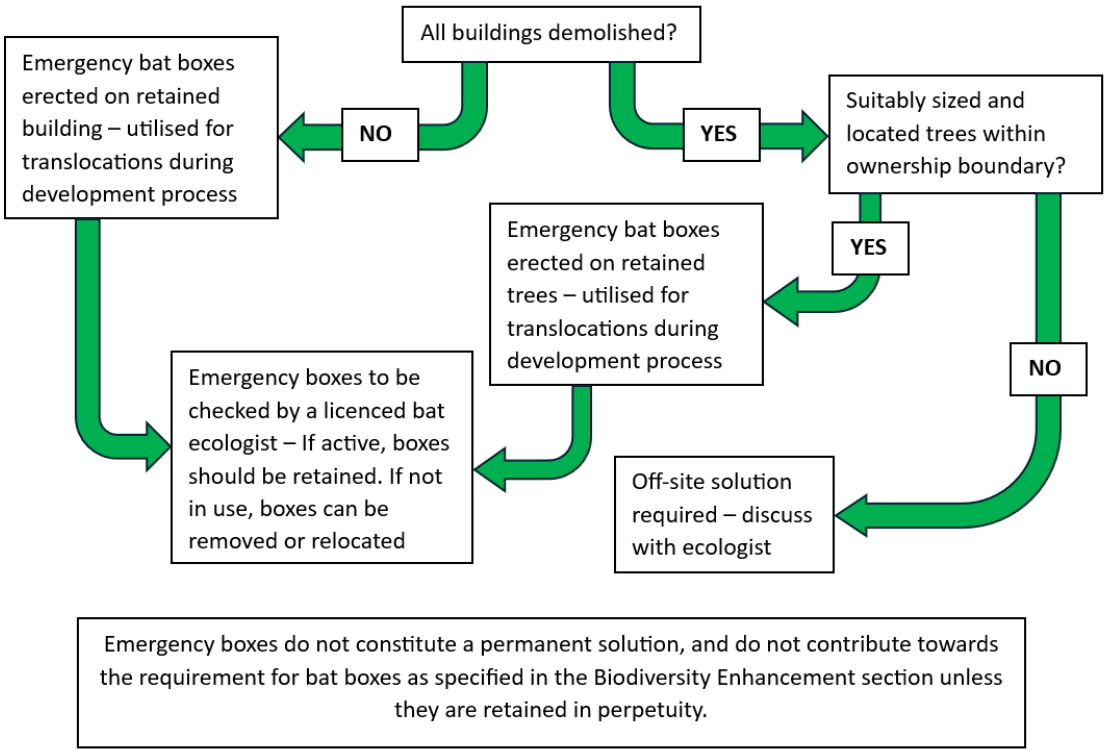
Prior to works commencing a toolbox talk will be required for operatives explaining:

- The importance of bat conservation.

- How to identify signs of bat presence, as well as distinguishing bats from other mammal species.
- The risks that works could present to bats should they be present.
- The methods that will be utilised on site to reduce the risks to bats should they be present.
- Emergency information should bats be found, including licenced bat contacts and wildlife rescue centres.

Erection of compensation features

Bat boxes should be erected prior to works commencing so that an artificial roost space is available for immediate translocation should bats be discovered during the demolition works. Consult the following flow chart to choose the location for an emergency translocation roost.



Workers should be careful not to damage nearby trees during erection, with only tertiary branches removed to provide a clear flight path to the box. Boxes should be erected on the south side of features to allow warming in the daytime and remain unlit throughout the day and night.

Immediately prior to works commencing

Immediately before works commence, a walkover check should be undertaken by operatives having been informed by the toolbox talk to identify potential bat presence. This should comprise an internal and external search of the building for signs of bat presence, including beneath roofing and in other crevices. Where bat absence cannot be confirmed by observation alone, endoscopes or other cameras should be utilised.

Where uncertainty remains, a trained [and where necessary, licenced] ecologist should be contacted for a secondary assessment. Works cannot begin until bat presence has been effectively ruled out.

Construction activities

The existing building(s) will be dismantled as appropriate. This should be undertaken using hand tools with any or roofing siding soft-stripped by hand and checked for signs of bat presence.

At all times during the works

Should roosting bats be confirmed or suspected at any time all works must cease and Arborweald contacted for a second assessment. The area must be cordoned off and works halted until the appropriate survey effort has been undertaken and licencing acquired.

Bats are not to be handled by anyone not covered under a Natural England Licence *unless their actions prevent further harm to an individual at immediate risk of further harm should those actions not be undertaken.*

Failure to cease works and undertake the adequate survey and licencing effort, or disturbing, harming bats, or obstructing a roost constitutes a strict liability criminal offence. The maximum penalty is 6 months in prison and an unlimited fine.

Lighting

While different species of bat react differently to night-time lighting, research has found that bats overall are sensitive to artificial lighting. Excessive and/or poorly directed lighting may delay bats in emerging from their roosts; shortening the time available for foraging, as well as causing bats to move away from suitable foraging grounds, movement corridors or roosting sites, to alternative dark areas (Jones, 2000).

To minimise indirect impacts from lighting associated with the proposed development, it is recommended that artificial lighting is only directed where necessary for health and safety reasons. Lighting should not illuminate any trees, hedgerows or mitigation and compensation features, such as hanging tiles and integrated bat boxes, or suspected or confirmed bat roosting sites. Lighting should only be used for the period of time for which it is required (Jones, 2000). This can be achieved by following accepted best practice (Fure, 2006; Institute of Lighting Engineers 2009; Bat Conservation Trust 2024):

- The level of artificial lighting including flood lighting should be kept to an absolute minimum;
- Where this does not conflict with health and safety and/or security requirements, the site should be kept dark during peak bat activity periods (0 to 1.5 hours after sunset and 1.5 hours before sunrise);
- Lighting required for security or safety reasons should use a lamp of no greater than 2000 lumens (150 Watts) and should comprise sensor-activated lamps;

- Lights utilising LED technology are the preferred option as these lights do not emit on the UV spectrum, are easily controllable in terms of direction/spill and can be turned on and off instantly;
- Avoid the use of sodium or metal halide lamps, these gas lamps require a lengthy period in which to turn off and the diffuse nature of the light emitted makes light spillage a significant problem.
- Lights required for night time deliveries or security patrols could be set to activate with pressure activated sensors set into the ground;
- Lighting should be directed to where it is needed to minimise light spillage. This can be achieved by limiting the height of the lighting columns and by using as steep a downward angle as possible and/or a shield/hood/cowl/ that directs the light below the horizontal plane and restricts the lit area;
- Artificial lighting should not directly illuminate any confirmed or suitable bat roosting features or habitats of value to commuting/foraging bats. Similarly, any newly planted linear features or compensatory bat roosting features should not be directly lit.

Badgers

All of the habitats on site are suitable to support badgers, and access to the site for badgers is good.

If badger activity is suspected on site (evidence may include feeding remains, sett digging, paw prints, droppings, hair, or active sightings) all works must cease and a licenced badger ecologist notified. Works cannot then restart until the appropriate survey effort and [as necessary] licencing has occurred. Failure to do so would constitute a criminal offence.

Trenches and holes should be covered each evening to prevent badgers and other animals from falling in. Provision should be made to allow animals to escape should they enter excavations, which could comprise a ramp leading to ground level.

Breeding birds

The scattered trees, scrub, hedgerows and buildings on site have the potential to support breeding birds. This also applies to trees that hang over into the site such as those at the boundaries.

All tree and hedge cutting works as well as any potential clearing and roof stripping works should be confined to outside of the bird breeding season (February – October inclusive) or should be undertaken under ecological supervision where works are undertaken within nesting season.

If an active nest is found all works must cease and a suitably experienced, qualified (and where necessary, licenced) ecologist contacted. Works can only resume once the species of bird has been identified, and an adequate buffer zone erected around the nest suitable to the species affected. This buffer must remain in place until fledging of the chicks *and* confirmation of the nest becoming defunct by the site ecologist.

No further surveys for breeding birds are deemed necessary at this stage.

Herptiles

Necessity

The scale of the development and the location of works within hardstanding and poor-quality grassland mean that direct impacts on suitable reptile habitat will be minimal. Key features of potential value to reptiles, including the woodland edge and hedgerow, will remain intact and be protected by a buffer zone during construction. As such, additional surveys for reptiles are not required at this stage.

Mitigation measures

Due to the methods that will be employed to create footings and other hard features, it will be necessary for the works to be mitigated through seasonal avoidance measures and a precautionary approach.

The precautionary approach laid out below should be followed to ensure that in the event that vagrant reptiles are discovered appropriate mitigation measures are put in place to avoid the risk of an offence being committed, and so that construction workers are aware of the constraints that herptile species could present to the development.

Toolbox talk

Prior to works commencing, a toolbox talk will be presented to all operatives to inform them as to the legislation protecting herptile species, the importance of their conservation, how to identify them so as to prevent injury, and the site-specific risks to them.

If the works are undertaken by experienced ecologically trained personnel, a toolbox talk will not be necessary.

Fencing

Herptile fencing will not be necessary as works to green habitats on site will be minimal, and fencing could risk illegally trapping newts - which is an offence under the Wildlife and Countryside Act 1981. Instead, should herptiles be discovered during works, works must cease until the individual vacates the area of its own accord. Alternatively, for unlicenced species capture and translocation to an appropriate area is acceptable.

Capture and translocation of herptiles

Species identification

Identification of the target species for translocation is extremely important so as to manage risks to both the captor and the target individual.

Can be captured and translocated
Common frog
Common toad
Smooth newt
Palmate newt
Common lizard
Grass snake
Slow worm

Must not be captured	Reason
Great crested newt	**Protected species**
Sand lizard	**Protected species**
Smooth snake	**Protected species**
Adder	**Venomous**

If in doubt regarding the species, stop works and contact an appropriately trained, experienced and where necessary licenced ecologist.

Translocation

Should herptiles from the above 'Can be captured' table be discovered at any time during the development, they should be captured and translocated off site. If there is any doubt as to the species present, works must cease and an appropriately trained and licenced ecologist contacted, as capturing a great crested newt would constitute an offence, unless rescuing the newt was an emergency measure that would otherwise negate the risk of a more serious offence being committed.

So as to reduce the risk of an offence being committed, Natural England's guidance should be followed as outlined in the Reptile Mitigation Guidelines handbook, such that herptiles are captured and excluded from the work area and relocated to the adjacent receptor site within the ownership boundary that will be subject to restoration and enhancement.

In the unlikely event that great crested newts or other licensable reptile species are discovered during any stage of the works, all works must cease, and the advice of an appropriately licenced ecologist sought.

Timing of works

Prior to works commencing

A hibernaculum should be constructed within the grassland unaffected by the development / offsite to provide a translocation receptor site should herptiles be discovered.

Hibernation season

Vegetation removal should occur during the hibernation season, to include removal of any scrub plants and cutting of all vegetation to ground level. Grass cutting works should be undertaken in a staged manner consisting of cut and collect to 150mm, left for two hours, then cut and collect to ground level. This will also reduce the risk to breeding birds.

Maintenance of the site

Once any areas of vegetation to be affected by the development have been cut to ground level, it should be maintained as such until work operations can begin so as to keep the site as unsuitable for habitation by herptiles as possible.

Turf stripping

As no hibernation features will be affected by the proposed development, turf stripping works can be undertaken at any time during the hibernation season when reptiles are least likely to be active.

In the unlikely event that herptiles are found at any time during the development, work should cease immediately, and a suitably licensed ecologist should be sought. Thereafter work can only recommence upon working in accordance with legislatively compliant recommendations. Failure to do so constitutes a criminal offence.

Additional recommendations

Construction Exclusion Zone (CEZ): a construction exclusion zone should be established to cover the areas of habitat that will not be affected by the proposed development. These areas should be fenced off with Heras fencing to limit damage to these areas during development; this accords with section 10.9 of BS:42020 (2013). Refer to section 10.9.3 of BS:42020 (2013) for additional information on required timings for fencing.

The CEZ will remain in place for the entire time that heavy machinery (including but not limited to excavators, graders, dumpers, lorries, and other vehicles over 2,000kg kerb weight) is on site.

The CEZ will also help to protect the remaining habitats that will not be affected by the proposed development.

Bonfires

Bonfires should not be lit during hibernation season of October to March to reduce the likelihood of affecting hibernating reptiles, amphibians and small mammals such as hedgehog Erinaceus europaeus.

Waste and materials

Construction waste, building materials and machinery should be stored in a dedicated storage area with fencing during the demolition and construction process. Construction waste should be stored in skips, with all new building materials kept on pallets until immediate use to avoid the possibility of protected species utilising piles as habitat.

Biodiversity enhancement and compensation

Necessity for planning conditions – note to the LPA

Sometimes it can be deemed necessary for biodiversity enhancements and compensation measures to be recommended to be designated as conditions attached to a planning consent.

The following symbols will be utilised below, with categorisation methodology explained in Section 2:

Red recommendations should be designated as conditions attached to a planning consent, and the development must not proceed without these enhancements / compensation measures being put in place, as they form a crucial role in achieving biodiversity net gain targets.

Amber recommendations should be included within the development, however it is not necessary for them to be designated as conditions, as the author believes that their implementation is not key to achieving biodiversity net gain targets. The client / developer should seriously consider including these measures to improve the biodiversity value of the site and to reduce their carbon footprint.

Green recommendations are additional enhancements which would improve the biodiversity value of the site; however, they are not key to achieving biodiversity net gain targets. These recommendations are aimed at clients wishing to 'go the extra mile' with their site so as to improve visual impact, public engagement, and property value.

Mandatory enhancements

Hedgehog highways should be a part of the development, with any and all new fencing and walls having a minimum 13cm x 13cm hole integrated into their design to allow access and egress from the site. Hedgehogs are a species of principal importance under Section 41 of the NERC Act 2006, and their conservation is of paramount importance due to severe declines in their populations and range.

Bird boxes, bat boxes, and bee bricks should be a part of the development, including dedicated swift boxes for hirundines, multi-species bird boxes, and bat boxes.

Bird boxes

Bird boxes should be placed at a minimum height of 4.5 metres i.e. first floor / eaves height away from doors and windows and areas of high disturbance (footpaths, lighting etc.).

Bird boxes should be placed on the eastern or western aspects of buildings so that they remain partially shaded during parts of the day to reduce the risk of overheating. They should comprise built-in features as they are better for security, longevity, reduced maintenance, reduced predation, thermal stability and aesthetic integration with the building design.

It is recommended that bird boxes are constructed of woodcrete / woodstone similar to such boxes as the Schwegler 1SP nest box. The swift box should be similar to the Vivara Pro WoodStone built-in swift nest box.

One brick is the equivalent of one nesting cavity, thereby where a multiple cavity brick is provided, this would result in the same provision but with a lower number of bricks.

As a minimum, a single (1) bird box should be provided along with a minimum three (3) swift cavities / swift boxes / bricks on the eastern aspect of each new building.

Multi-species bird boxes and swift boxes should be placed away from each other where possible.

Bat boxes

As bats prefer more sheltered and less disturbed areas to roost, it is recommended that bat boxes are placed at a height of 4 metres on the southern side of the building. This will ensure that bats remain undisturbed by usage of the buildings.

It is recommended that bat boxes are of the Schwegler 1FR built-in type.

Care should be taken when erecting bat boxes to ensure they remain sheltered, but accessible with clear flight paths and without damaging surrounding trees during erection. Tertiary branches that block the flight path to the box should be trimmed, with the whole area remaining unlit.

As a minimum, a single (1) bat box / bat brick should be provided on the southern aspect of the main school building.

Arborweald receive no commission for recommendation of brands of wildlife boxes, and other brands are available.

Bee bricks

Bee bricks should be included on the new dwelling to comprise one (1) Ibstock EcoHabitat brick at a minimum of 1m above ground level adjacent to landscape planting that is of benefit to wildlife, comprising native species as detailed in the 'Wildflower planting' section below.

New trees; the development should include new trees to ensure an appropriate level of cover for bats and to provide a micro-climate between trees to support insect species. Fruit trees also work well within linear boundaries such as hedgerows.

These should be scattered throughout the site boundary, and comprise robust native woody species such as hornbeam, field maple, or lime *Tilia cordata*, or fruiting species such as pear *Pyrus spp.,* apple *Malus spp.,* or mountain ash *Sorbus aucuparia*. These could include historically important varieties rare in the county. These species provide foraging opportunities for badgers, birds and small mammals.

Sward management around planted trees should be careful to avoid damage to trees and should be as varied as the rest of the amenity grassland within the wider site boundary.

Effort should mainly be concentrated on planting native species where possible, and attached with this report is our 'alternative planting list'.

As a minimum, four (4) new standard trees should be planted across the site boundary. These trees should be bought as heavy standards a minimum of 2.5m tall on purchase, grown to the size of 'small' trees (3m canopy radius).

Habitat enhancement:

On-site

Ensure woodland is separated from curitilage and improve to good condition. This can be achieved by;

creating clear boundaries or physical barriers: Install fencing or hedgerows create a clear separation between the woodland and the curtilage. This ensures that the woodland habitat remains undisturbed by domestic or developed activities.

Invasive species control: Remove any invasive species that might be threatening the woodland, such as non-native shrubs or plants. This helps native flora to thrive and supports local wildlife.

Tree management: Promote the health of the trees by thinning overcrowded areas and ensuring there's a mix of age classes within the woodland. You could also remove dead or diseased trees as part of good woodland management practices.

Replanting native species: If needed, introduce native tree species to increase the diversity of the woodland and improve habitat for a variety of species, particularly if some trees are missing or in poor condition.

Deadwood: Leave some deadwood in the woodland, as it provides important habitats for invertebrates, fungi, and birds.

Off-site

Habitat units

The site currently supports 2.48 habitat units. Development of the site will result in the loss of 0.62 habitat units, leaving 1.86 units post-development. To achieve the required 10% biodiversity net gain, the proposed habitats (including creation, compensation, and enhancement) must deliver a minimum of 0.248 additional habitat units, resulting in a total of 2.728 units.

Hedgerow units

The site currently supports 0.86 hedgerow units. Development of the site will result in no loss of hedgerow units, with 0.86 units retained post-development. To achieve the required 10% biodiversity net gain, the proposed habitats (including creation, compensation, and enhancement) must deliver a minimum of 0.086 additional hedgerow units, resulting in a total of 0.946 units.

Non-mandatory enhancements

Hedgerow upkeep: Existing hedgerows within and along the boundary of the site should be retained and subject to gap planting using a native species-rich mix. A minimum of seven native species should be selected from the following: hazel *Corylus avellana*, hawthorn *Crataegus monogyna*, blackthorn *Prunus spinosa*, spindle *Euonymus europaea*, wayfaring tree *Viburnum lantana*, crab apple *Malus sylvestris*, hornbeam *Carpinus betulus*, dog rose, field maple *Acer campestre*, and wych elm *Ulmus glabra*. Honeysuckle *Lonicera periclymenum* should also be included to improve structural diversity.

Any non-native or invasive species within hedgerows should be removed and replaced with appropriate native species from the list above.

Where hedgerows are found to be of low density, bolster planting should be undertaken at a rate of 10 plants per metre, using two staggered rows of five plants each (rows 30 cm apart; plants 20 cm apart). Existing mature individuals may be counted toward this density. For example, where a hedgerow contains 3 plants per metre, 7 additional plants per metre should be added to meet the required standard.

To enhance connectivity and woody cover, scattered standard trees such as hornbeam *Carpinus betulus*, field maple *Acer campestre*, or lime *Tilia cordata* var. 'Green Spire' should be planted at intervals along hedgerows where space allows. These species are durable, easily managed, and suitable for integration into hedgerow networks.

Mowing regime; areas of grassland on site should be mown on a scheme that benefits both biodiversity and the usage of the site. Areas away from roadways should be left long and cut once in October to allow the soil nutrients to be removed. These measures can also be supplemented for 'planting of a wildflower meadow' below.

Hedge cutting; Existing and new hedgerows on site should be cut biannually (every 2 years) except around gateways (annually). Hedgerows gradually lose their shape and density at the cost of amenity and functionality as they mature; therefore, hedge laying in the traditional Kent or Sussex style should occur every 10 years on rotation to maintain hedge structure.

Planting of a wildflower meadow; an increase in invertebrate habitat should be a key part of the plan, to include wildflower planting for bees and other pollinators within the site boundary to the east and south of the development to help increase the number of foraging opportunities available for bats.

Wildflower meadow mixes are available online, and should preferably focus on native bee-friendly mixtures to include the following species:

Common agrimony	Cornflower	Wild marjoram
Borage	Ox-eye daisy	Meadow cranesbill

Wild clary	Wild foxglove	Musk mallow
Red clover	Common knapweed	Common poppy
White clover	Greater knapweed	Ragged robin
Corn cockle	Purple loosestrife	Sainfoin
Field scabious	Bird's-foot trefoil	Yarrow

Wildflower mixes should focus on supporting invertebrates (such as bees, ants, wasps, butterflies and flies) and birds, and should ideally not contain non-native species as these can out-compete native plants for pollination.

Climbing plants should be trained up the walls of the new buildings or fences using trellis. Species could include; passion flower, honeysuckle, hops, ivy, star jasmine, wisteria, climbing roses, or clematis. These species all provide feeding opportunities for invertebrates and small mammals, and nesting opportunities for birds once they reach maturity.

Butterfly planting should focus on species rare in Sussex and Kent such as the silver-spotted skipper *Hesperia comma*, dingy skipper *Erynnis tages*, grizzled skipper *Pyrgus malvae*, Adonis blue *Pollyomatus bellargus*, chalk hill blue *Polyommatus corridon*, small heath *Coenonympha pamphilus*, and fiery clear wing *Pyropteron chrysidiformus.* Plant species to encourage these butterflies should include the following in a large planter or area of ornamental planting (species that support more than one of these butterfly species are in bold):

Common sorrel	Tormentil	**Birds foot trefoil**
Curled dock	Salad burnet	**Horseshoe vetch**
Sheep's fescue	Agrimony	Wild strawberry

REFERENCES

Amphibian and Reptile Group UK (ARG UK). (2010). ARG UK Advice Note 5 Great Crested Newt Habitat Suitability Index, ARG UK

Barn Owl Trust. (2012). Barn Owl Conservation Handbook, Pelagic

British Standards Institute (BSI). (2013). BS42020: Biodiversity – Code of practice for planning and development, BSI

Chanin P. (2003). Ecology of the European Otter. Conserving Natura 2000

Rivers Ecology Series No. 10. English Nature, Peterborough

CIEEM (2017) Guidelines for Preliminary Ecological Appraisal (CIEEM http://www.cieem.net/).

Collins J. (Ed). (2024). Bat surveys: good practice guidelines. London, Bat Conservation Trust

Corbet G. B. and Harris S. (1991). The handbook of British mammals, Blackwell Scientific

Dean M, Strachan R, Gow D and Andrews R; Mathews F and Chanin P (Ed). (2016). The Water Vole Mitigation Handbook, The Mammal Society

Edgar, P., Foster, J. and Baker, J. (2010). Reptile Habitat Management Handbook. Amphibian and Reptile Conservation, Bournemouth.

Froglife. (2001). Great Crested Newt Conservation Handbook, Froglife

Gent T. and Gibson S. (2003). Herpetofauna Workers Manual, Joint Nature Conservation Committee (JNCC)

Harris, S, Cresswell, P and Jeffries, D. (1986). Surveying Badgers, Mammal Society

Harris S. and Yalden D. (2008). Mammals of the British Isles, Mammal Society

Joint Nature Conservation Council (JNCC). (2003). Herpetofauna Workers Manual, JNCC

JNCC. (2016). Phase 1 Habitat Survey Handbook, JNCC

Mitchell-Jones A.J (2004) Bat Mitigation Guidelines. English Nature.

Mitchell - Jones A. J. and McLeish A. P. (2004). Bat workers' manual. Peterborough, JNCC

Natural England (NE). (2006). The dormouse conservation handbook, NE

Natural England (NE). (2011). Reptile mitigation guidelines, NE

NE. (2014) Otters standing advice, NE

NE. (2015) Water vole standing advice, NE

NE. (2015). Bats standing advice, NE

NE. (2015). Reptiles: surveys and mitigation for development projects, NE

NE. (2015). Great crested newts: surveys and mitigation for development projects, NE

NE. (2015). Great crested newt Standing Advice, NE

NE. (2015). Reptiles Standing Advice, NE

NE. (2015). Standing Advice Species Sheet Wild Birds (including Barn Owls). NE

NE. (2015). Bats: surveys and mitigation for development projects, NE

NE. (2015). Standing Advice: Dormouse, NE

NE. (2015). Standing Advice: Badger, NE

Ransome, R. (1990). The natural history of hibernating bats. London, Christopher Helm

Secretary of State, (1981 [as amended]). Wildlife and Countryside Act, HMSO

Secretary of State, (1992). Badger Act, HMSO

Secretary of State, (2000 [as amended]). Countryside and Rights of Way Act, HMSO

Secretary of State, (2010/2017) The Conservation of Habitats and Species Regulations, HMSO

Secretary of State, (2021). Environment Act, HMSO

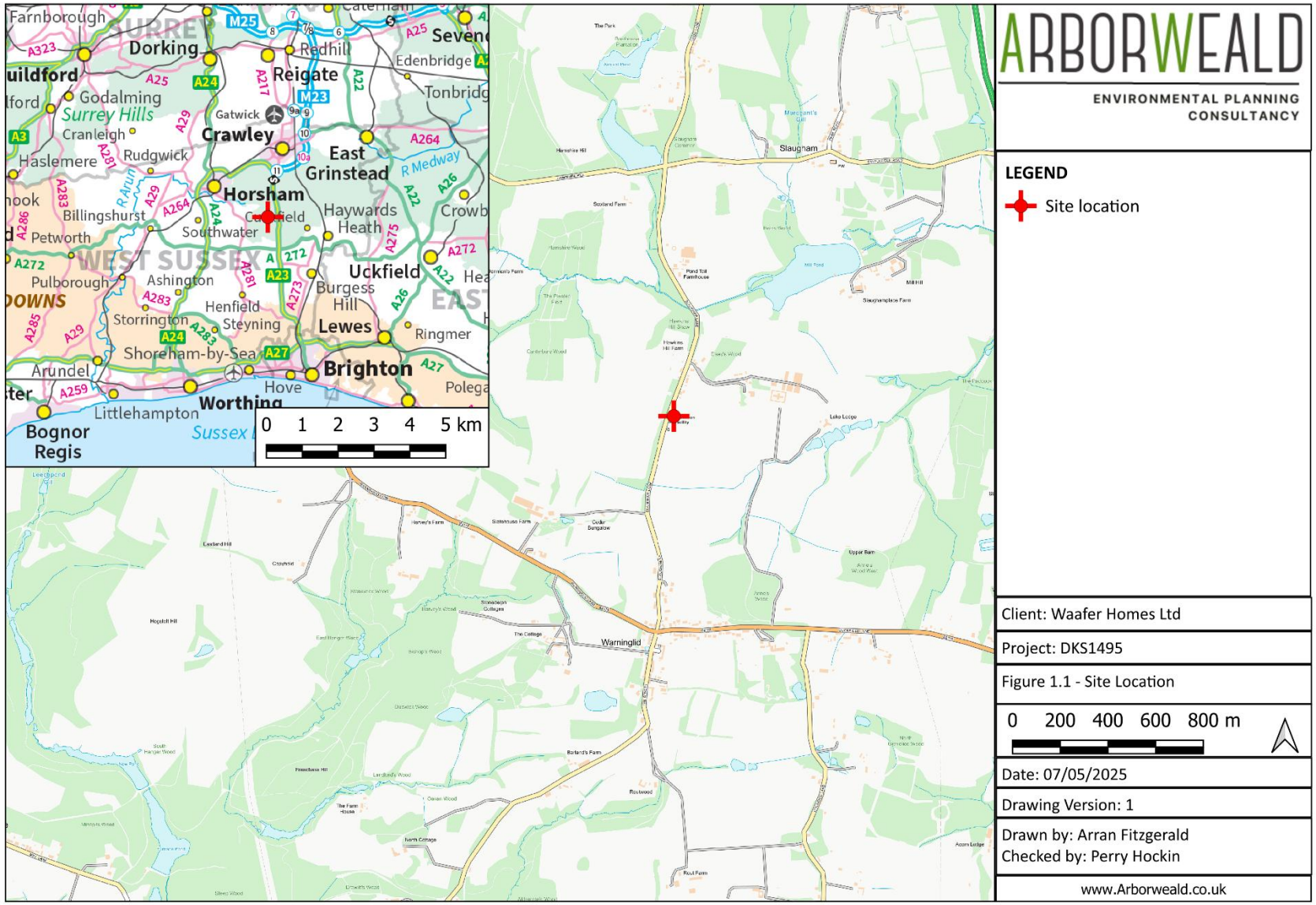
Shawyer C R. (2011). Barn Owl *Tyto alba* Survey Methodology and Techniques for use in Ecological Assessment: Developing Best Practice in Survey and Reporting, IEEM

Stace, C (2019) *New Flora of the British Isles* 3rd Edition, Cambridge University Press, Cambridge.

FIGURES

*For the purposes of the proposals drawing, habitats from any landscape plans have been assigned their category of best fit as per Stace et al.

In the absence of full and finalised development plans, the author will have to make assumptions. As such, habitats displayed are suggestions and comprise habitats that the author feels would best fit the proposed landscape without compromising the usage of the site. These habitats will have been used to undertake the Biodiversity Metric Assessment (BMA), and as such adjustment to the calculation may be required should plans change. – this may come at cost to the client.



ARBORWEALD
ENVIRONMENTAL PLANNING CONSULTANCY

LEGEND

Site location

Client: Waafer Homes Ltd

Project: DKS1495

Figure 1.1 - Site Location

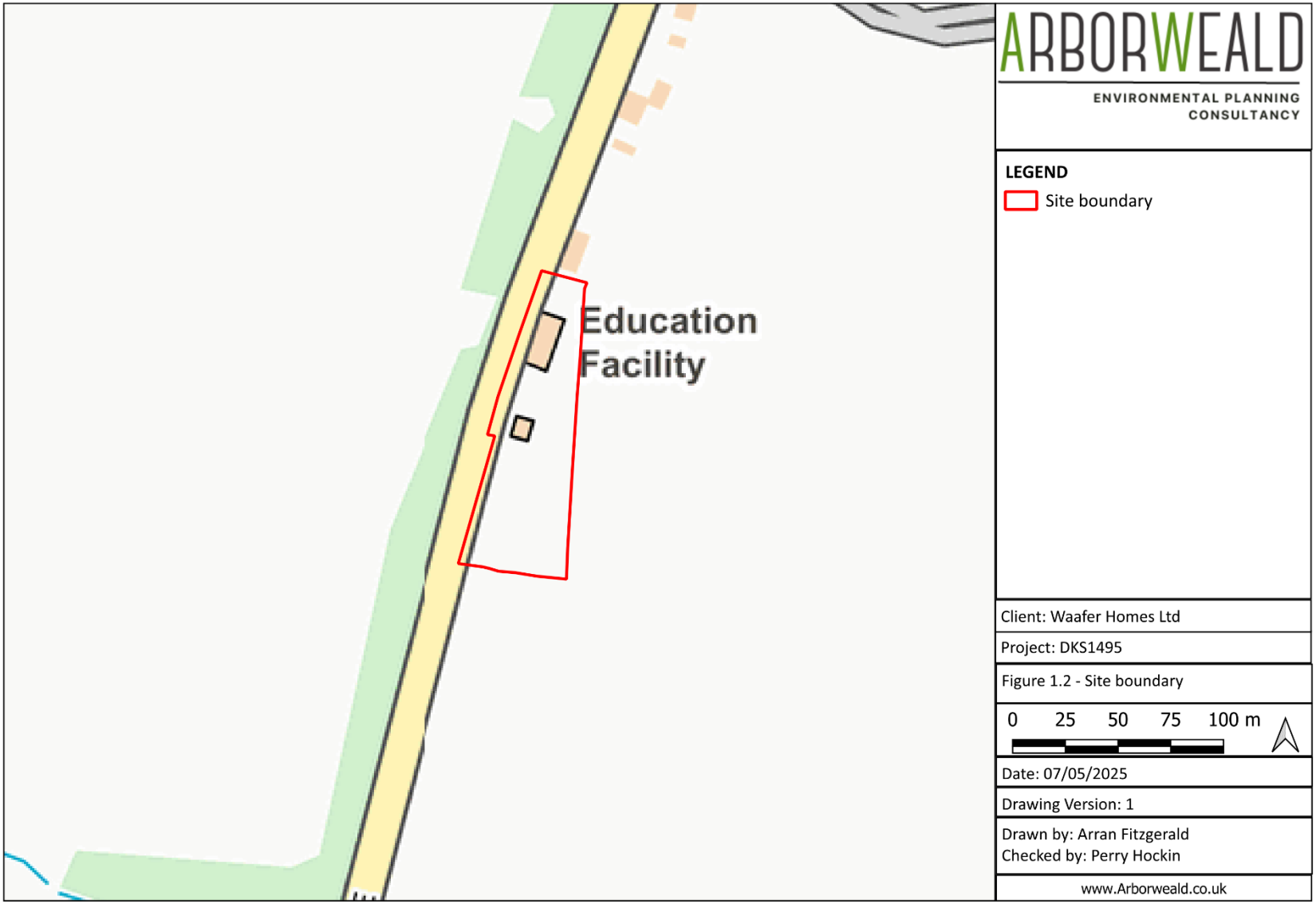
0 200 400 600 800 m

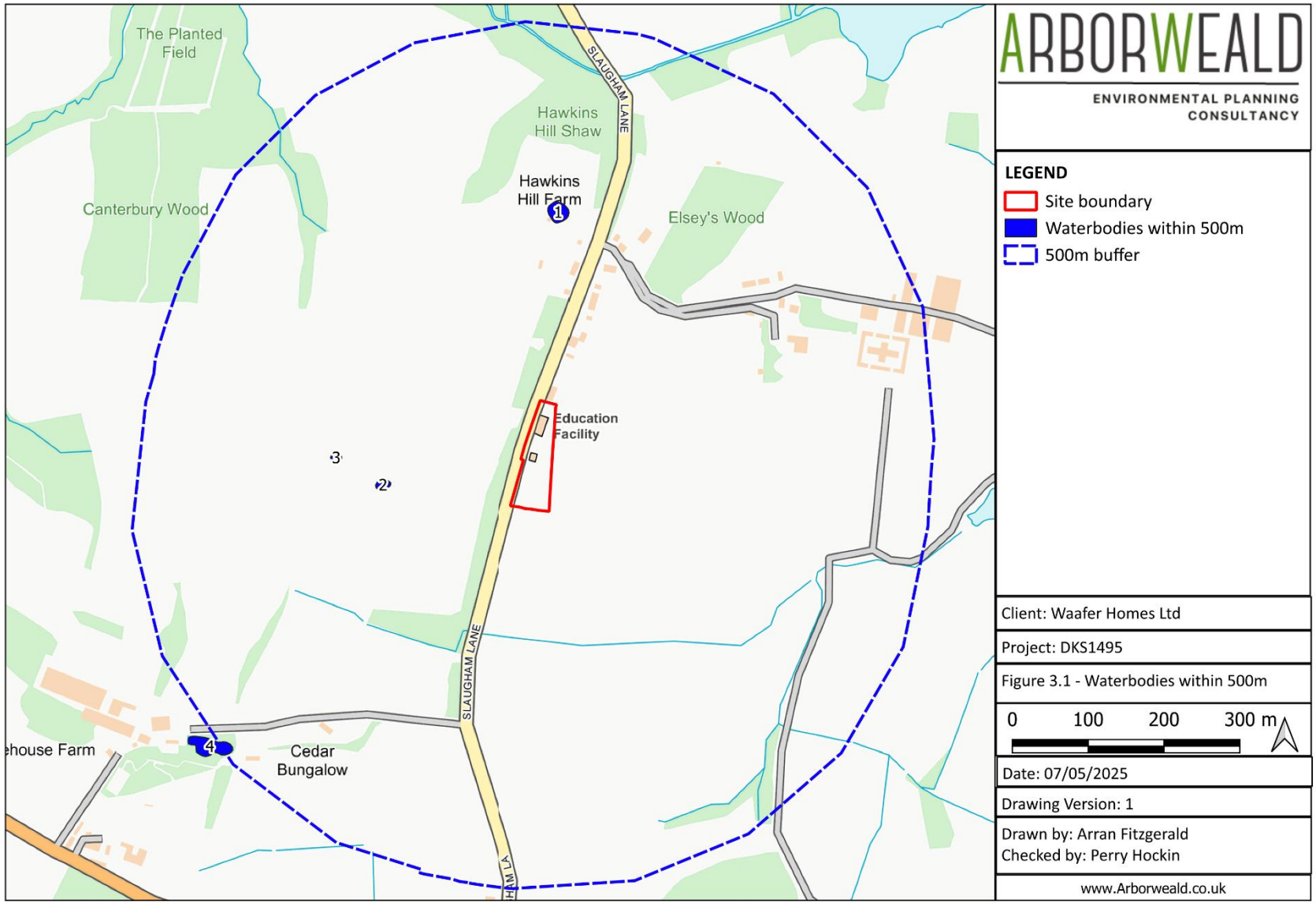
Date: 07/05/2025

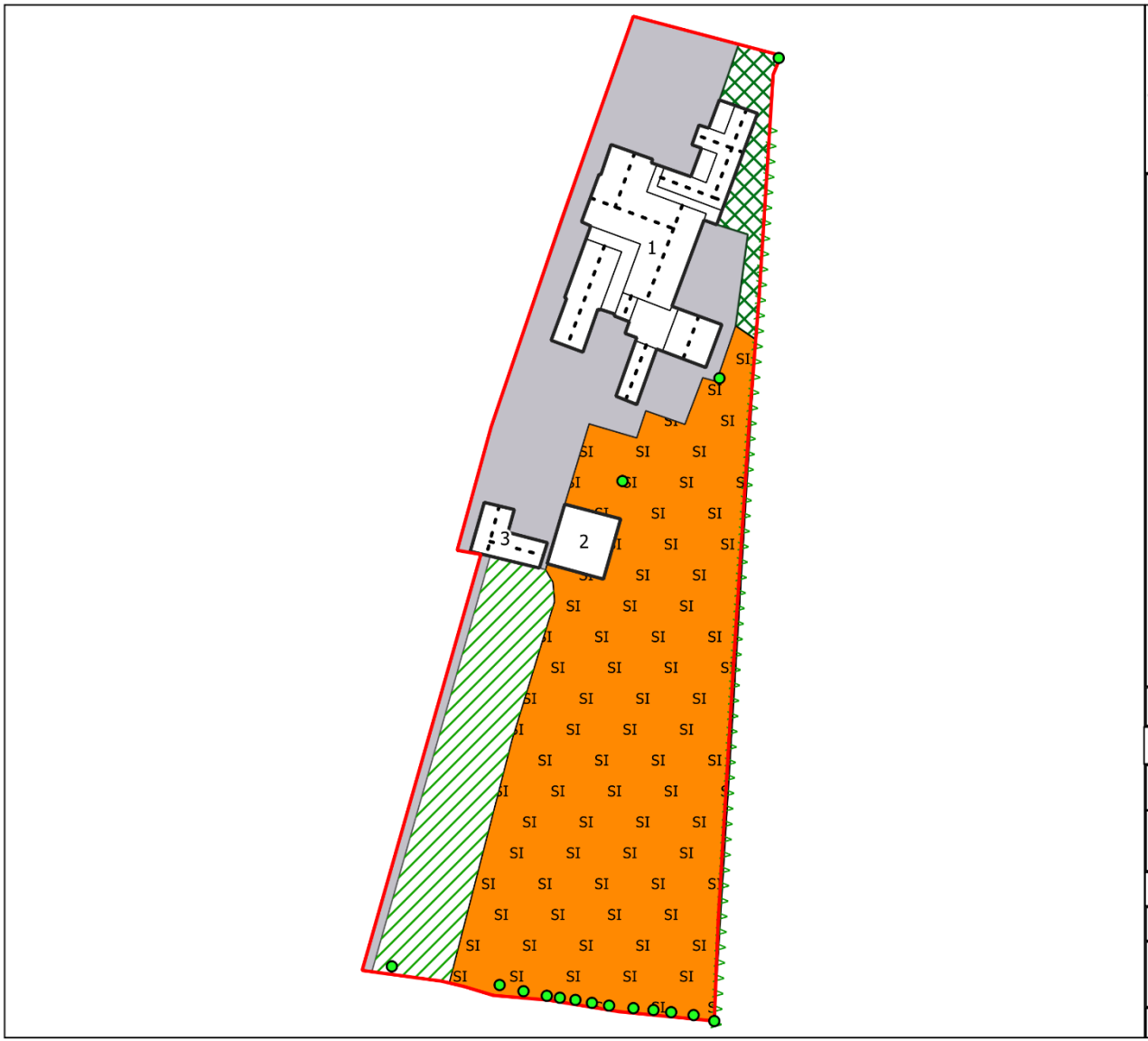
Drawing Version: 1

Drawn by: Arran Fitzgerald
Checked by: Perry Hockin

www.Arborweald.co.uk







ARBORWEALD
ENVIRONMENTAL PLANNING CONSULTANCY

LEGEND

- Site boundary
- Building
- Ridge line
- Roof line
- Hardstanding
- Semi-improved grassland
- Scrub
- Woodland edge
- Hedgerow
- Trees

Client: Waafer Homes Ltd

Project: DKS1495

Figure 3.2 - PEA & PRA results

0 10 20 30 40 m

Date: 08/08/2025

Drawing Version: 2

Drawn by: Arran Fitzgerald
Checked by: Perry Hockin

www.Arborweald.co.uk

APPENDIX A Wildlife Legislation

The Wildlife and Countryside Act 1981 (as amended)

Schedule 1
*A*pplies to all wild birds where it is an offence:

- to take, damage or destroy a nest whilst it is being built or in use
- to kill, injure or take any wild bird (subject to certain exceptions and / or licencing)
- to take or destroy the egg of any wild bird.

It is also an offence to disturb any wild bird listed on Schedule 1 of the Wildlife & Countryside Act 1981 (as amended):

- while it is nest building
- at a nest containing eggs or young
- to disturb the dependant young of any such bird.

Schedule 5
Other protected animals are listed in Schedule 5; a full list of protected species can be found on the Legislation.gov.uk website. Schedule 5 contains several advancing levels of protection outlined below:

Protected under section 9(5) of Schedule 5, it is an offence:

- to sell or advertise for sale, or participate in the sale of these species; many species of invertebrate are listed under this section including butterflies, moths and beetles as well as common frog, palmate and smooth newts

Protected under section 9(1) of Schedule 5, it is an offence:

- to intentionally kill or injure or take these species – this applies to adder, grass snake, common lizard and slow worm

For animals fully protected under Schedule 5 - which includes, the hazel dormouse, otter, water vole, pine marten, shrews, hedgehog, great crested newt, natterjack toad, sand lizard, smooth snake, red squirrel and all bats – all of the above apply, however it is also an offence:

- to intentionally or recklessly damage or destroy or obstruct access to any structure or place which a species uses for shelter or protection, at any time even if the animal is not present.
- to intentionally or recklessly disturb whilst it is occupying a place which it uses for shelter or protection.

Schedule 8
Specific species of plants listed in Schedule 8 are protected. It is an offence: to intentionally pick, uproot or destroy a wild plant listed in Schedule 8.

Schedule 9
Invasive non-native species are listed under Schedule 9. It is an offence:

- to plant or otherwise cause to grow in the wild.

- If soils are contaminated by invasive non-native plant species it becomes classified as '*controlled waste*' under the Environmental Protection Act 1990 (England, Wales & Scotland), and must be disposed of accordingly.

The Conservation of Habitat and Species Regulations 2017

Schedule 2 applies to all European Protected Species (EPS) which includes all bat species, great crested newts, otter and dormice. The protection afforded is overlapping but separate from the Wildlife and Countryside Act 1981 (as amended)

The Protection of Badgers Act 1992

Under this Act it is an offence:

- To intentionally or recklessly interfere by damaging, destroying, obstructing access to, or disturbing a badger whilst in a sett either directly or through causing a dog to enter a badger sett
- To wilfully kill, injure or take a badger, or to attempt to do so; in a case of attempt, if there is reasonable evidence to suggest an offence may have been committed, evidence would be required to prove innocence
- To possess or be under control of a dead badger, or part of, or anything derived from a dead badger which may have been killed in contravention of the above
- To sell, possess or attempt / offer to sell a live badger

Where interference with a badger sett cannot be avoided during development, a licence from Natural England must be applied for.

APPENDIX B Site photographs

Figure B1

Figure B2

Figure B3

1.1

Figure B4

Figure B5

1.2

Figure B6