

**Proposed Development
at Oakwood Community School on Heath Road
in Bagworth, Leicestershire, CV13 0JD
(Phase 2 Expansion Project)**

Preliminary Ecological Appraisal and Badger Survey

A report to:

SRA Architecture Ltd.

By:

Udall-Martin Associates Ltd.

Silvan, 5 The Common, Wellington Heath
Herefordshire, HR8 1LY



November 2023

CONTRACT DETAILS	
Contract Title	Oakwood Community School, Bagworth: Ecology
Contract No.	722/23
Client	SRA Architecture Ltd.
Survey Date	31st August 2023
Report Date	28th November 2023
Report Title	Proposed Development at Oakwood Community School on Heath Road in Bagworth, Leicestershire, CV13 0JD (Phase 2 Expansion Project): Preliminary Ecological Appraisal and Badger Survey

REPORT REVIEW/QUALITY ASSURANCE				
Personnel	Name	Signature	Position	Date
Prepared by	Susie Udall MSc MCIEEM CEnv		Consultancy Manager	28/11/2023
Reviewed by	Dwayne Martin		Principal Ecologist	28/11/2023

CONTENTS

Chapter	Page No.
Executive Summary	4
1. Introduction	6
1.1 General	6
1.2 Badger Legislation and Licencing	7
2. Site Description	8
3. Methodology	9
3.1 Baseline Ecological Conditions	9
3.2 Desk Study	9
3.3 Site Surveys	9
3.4 Baseline Evaluation Criteria	11
4. Baseline Ecological Conditions	11
4.1 Desk Study	12
4.2 Site Surveys	16
5. Ecological Evaluation	21
5.1 Designated Nature Conservation Sites	21
5.2 Habitats	22
5.3 Protected/notable Species	23
5.4 Main Potential Ecological Issues	26
6. Recommendations	28
6.1 Introduction	28
6.2 Mitigation Recommendations	28
6.3 Compensation Recommendations	31
6.4 Enhancement Recommendations	33
6.5 Further Survey Recommendations	34
References	36
Appendices	38
Appendix 1: Figures	38
Figure 1: Location of Site and Ponds within 500m and Proposed Development Works	38
Figure 2: Proposed Development Phase 2 Expansion Project	39
Figure 3: Proposed Forest School Structure and Footpath	40
Figure 4: Survey Area and Survey Results	41
Appendix 2: Photographs	42
Appendix 3: Designated Nature Conservation Sites Map	48
Appendix 4: Protected Species Legislation	49
Appendix 5: Native Species Suitable for Planting and Sowing	51
Appendix 6: Faunal Species Boxes Specifications	57

EXECUTIVE SUMMARY

Proposed Works

The proposed development works involve the construction of new school buildings, car parking areas and sports pitch and the reinstatement of a former access road, at an existing school site.

Method of Study

The brief was to assess the existing ecological value of the site, identify potential ecological issues associated with the proposed development and make recommendations for general mitigation, compensation, enhancement and further surveys, as appropriate. A desk study and an Extended Phase-1 habitat survey and badger survey of the site were carried out.

Baseline Ecological Conditions

There are no statutory designated nature conservation sites (e.g. SSSI) on the survey site or within the 2km study area. However, there is a historical pLWS on the site and one pLWS (closest is 298m away from the survey site) within the 2km study area. There are no rare habitats on the site. Evidence of badger was recorded on the site. The site provides potential habitat for other protected species, namely amphibians (including great crested newt), roosting/foraging/commuting bats, nesting birds and reptiles. Previous records for the 2km study area include badger and bats.

Potential Ecological Issues

The main potential ecological constraints associated with the proposed development works are (i) damage/disturbance to adjoining areas of the historical pLWS on the site, (ii) loss/damage/disturbance to habitats, (iii) disturbance to roosting, commuting and foraging bats on the site and/or in the vicinity (due to limited habitat loss and also more significantly new lighting), (iv) harm/injury/disturbance to individual great crested newts, (v) loss/damage/disturbance to great crested newt terrestrial and breeding habitat, (vi) harm to nesting birds, (vii) loss of bird nesting habitat and (viii) harm and injury to reptiles. There are ecological opportunities with habitat creation, native planting and faunal species enhancements.

Mitigation Recommendations

- Avoid damaging/disturbing the adjoining grassland and woodland areas in the historical pLWS. There will be no temporary storage of equipment or materials etc. in these areas. Temporary Heras fencing will be installed to avoid accidental transgression.
- Hedgerow loss will be kept to an absolute minimum and compensated.
- Mature ash tree to be retained. Any young trees and shrubs/dense scrub removed will be kept to an absolute minimum and compensated.
- No storage of materials/equipment will take place under the 'drip-zone' of retained trees on the site and in the vicinity (i.e. under their canopy).
- Grassland loss will be kept to an absolute minimum and compensated.
- Loss of pond/area of standing water will be compensated.
- Best practice will be used to ensure that water quality in the retained ditch on the site is not adversely affected.
- Mitigation for great crested newts and reptiles may be required depending on the results of the further surveys.
- Prior to site clearance strip grassland and check for common amphibians and hedgehogs. The further great crested newt surveys and reptile surveys will firstly need to be carried out to determine their presence/absence; as the above recommendation may need to be updated if found to be present.
- Any common amphibians and hedgehogs found will be handled by a site worker and placed by hand (with gloves) beneath hedgerows in the vicinity.
- Further badger survey at the optimal survey period.
- Trenches will be left with a sloping end or ramp to allow any badgers or other animal that may fall in to escape. Development works excavation holes will be covered over at night. Pipes over 200mm in diameter will be capped off at night to prevent animals entering.
- Any new exterior lighting needs to be sensitive to the needs of roosting, foraging and commuting bats, badger and other nocturnal wildlife.

- Ideally any hedgerow, tree and shrub/dense scrub removal would be carried out outside the bird breeding season, which runs from March to September inclusive. However, if works are carried out during the bird breeding season, then firstly a nesting bird check will be carried out.

Compensation Recommendations

- Plant further native species-rich hedgerows on the site boundaries.
- Native tree and shrub planting to equal or preferably exceed that lost to the development.
- Diversity existing retained grassland on the site (and in the wider grounds) by introducing a variety of grasses and broadleaved herbaceous species.
- Native flower-rich lawn areas.
- Create two new wildlife ponds.
- Compensation for great crested newts and reptiles may be required depending on the results of the further surveys.
- Install general bird nesting boxes on the new buildings on the site.

Enhancement Recommendations

- Any landscaping to include native planting.
- Install a bat roosting box on each of the new buildings on the site.
- Install bird nesting boxes for house sparrow and house martin on each of the new buildings on the site.
- Install two hedgehog boxes in the bases of the retained hedgerows on the site.

Further Survey Recommendations

- Initial check and HSI assessment of the pond/ditch on the site and ponds within 500m of the site.
- Full great crested newt surveys of potentially suitable ponds/ditch within 500m of the site (to be carried out March to June 2024).
- Also, initial eDNA sampling could be carried out on one visit and specially analysed to determine the presence/absence of great crested newts in the ponds/ditch.
- Alternatively the District Level Licencing route for great crested newts may be applied for, which would mean no newt surveys would be required, although it would incur an enquiry fee, licence fee and a conservation payment.
- Badger survey at the optimal survey period, i.e. February to April 2024.
- Bat activity survey and remote monitoring of the site in May/June 2024 (with possible further surveys/remote monitoring depending on the results of the initial survey/monitoring).
- Nesting bird check if hedgerows, trees or shrubs/dense scrub are removed during the bird breeding season.
- Reptile surveys of the site.

1. INTRODUCTION

1.1 General

- 1.1.2 This report has been prepared by Udall-Martin Associates Ltd. for SRA Architecture Ltd. It provides the details of a Preliminary Ecological Appraisal and badger (*Meles meles*) survey of an area of land, where a development is proposed.
- 1.1.2 The site is situated at Oakwood Community School on Heath Road in Bagworth, Leicestershire, CV13 0JD (National Grid Reference SK 444066).
- 1.1.3 The proposed development works is the Phase 2 expansion project involving the following (see Figures 1, 2 and 3, Appendix 1):
- Construction of new school buildings, car parking areas and sports pitch.
 - Construction of a small forest school structure.
 - New pedestrian footpath linking the new forest school structure to the access road/car park on the site.
 - Reinstatement of a former access road through the site from the eastern boundary.
 - Some limited scrub and young trees and a short section of hedgerow will be lost.
 - Grassland and a small pond/area of standing water will be lost.
- 1.1.4 The brief was to assess the existing ecological value of the site, to identify potential ecological issues (constraints and opportunities) associated with the proposed development works and make recommendations for general mitigation, compensation, enhancement and further surveys as appropriate.
- 1.1.5 To meet the requirements of the brief, a Preliminary Ecological Appraisal (PEA) (comprising a desk study and an Extended Phase-1 habitat survey) of the site and badger survey of the site and adjoining areas, were carried out by suitably qualified and experienced ecologists.
- 1.1.6 Our ecology reports follow best practice guidelines as stated by Chartered Institute of Ecology and Environmental Management (CIEEM 2018 – updated April 2022) and The British Standards Institute (BSI 2013).
- 1.1.7 Every effort has been made to provide a preliminary ecological appraisal for the site (including for badger); however, the site visit has provided an assessment of the site at a limited point in time and that the natural environment is unpredictable and changeable. Therefore, a limited site visit investigation cannot ensure complete assessment and prediction of the natural environment.
- 1.1.8 Please note a specific search for highly invasive plants as listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) has not been carried out and only incidental observations are noted (if found to be present on the site). In particular, during the winter months and in areas of dense scrub vegetation, plants are not as readily

observable and therefore, it is possible during such times/site conditions plants could be missed (if a specific search was not part of the brief).

1.2 Badger Legislation and Licencing

1.2.1 General

- a) Badger is a widespread and generally common species. It is legally protected under The Protection of Badgers Act 1992, which is based primarily on the need to protect badgers from baiting/ deliberate harm or injury. Under this legislation it is illegal to:
 - Wilfully kill, injure, take, possess or cruelly ill-treat a badger, or attempt to do so;
 - Possess any dead badger or any part of, or anything derived from, a dead badger and
 - Intentionally or recklessly interfere with a sett by disturbing badgers whilst they are occupying a sett, damaging or destroying a sett, causing a dog to enter a sett, or obstructing access to it.
- b) A badger sett is defined in the legislation as *“any structure or place, which displays signs indicating current use by a badger”*. Natural England provide an advice note detailing ‘Guidance on ‘Current Use’ in the definition of a Badger Sett’ (Natural England June 2009a).
- c) Before works could go ahead which would cause damage to setts or disturbance to badgers, a licence would be needed from Natural England. The licence would allow otherwise illegal activities to be permitted.
- d) Licence applications are generally determined within 15 to 30 working days. Natural England will normally only issue licences for work to be carried out between the 1st July and 30th November, to avoid the badger breeding season, although exceptions may be possible if a sound justification can be made.
- e) It is not illegal and therefore a licence is not required, to carry out activities in the vicinity of a sett if no badger is disturbed and the sett is not damaged or obstructed.

1.2.2 Disturbance of Badgers

- a) The issue of what constitutes an act capable of disturbing a badger occupying a sett is difficult to determine and has been open to debate. Natural England has provided an advice note detailing the ‘Interpretation of ‘Disturbance’ in relation to badgers occupying a sett’ (Natural England June 2009b).
- b) Badgers are found in a variety of places including urban and rural locations, creating setts under railways and road and within urban gardens, therefore, they appear to be able to withstand significant amounts of noise/activity near their setts without apparently being disturbed (Natural England June 2009b).

- c) Natural England believes that badgers are relatively tolerant of moderate levels of noise and activity around their setts, and that low or moderate levels of apparent disturbance at or near to badger setts do not necessarily disturb the badgers occupying those setts. As such, Natural England do not believe that such levels of apparent disturbance around setts require a licence under section 10 of the Act.
- d) Examples of activities at or near setts that Natural England do not consider likely to cause disturbance to badgers, and would not normally require a licence, include:
 - (i) Development, or other activities occurring close to badger setts (use of hand tools and/or machinery), where there is no reason to believe that the 'disturbance' will be greater than that which badgers commonly tolerate, and therefore any badger(s) occupying the sett are unlikely to be disturbed;
 - ii) Vegetation removal (including felling small trees or shrubs) over or adjacent to setts (using hand tools and/or machinery);
 - (iii) Clearing out ditches/watercourses using machinery and/or hand tools where badger setts are present.
- e) Persons involved in activities near setts will need to exercise judgement as to whether their action may or may not cause disturbance to badgers.

2. SITE DESCRIPTION

- 2.1 Photographs of the site are provided in Appendix 2. The site comprises some of the wider grounds at Oakwood Community School and includes grassland, scrub, a pond/standing water, a ditch, short section of hedgerow and areas of bare ground (with emerging vegetation) and hardstanding. There is a former access road leading from the eastern boundary of the site to a car park to the west; however, this road was in a very poor state of repair, with grassland vegetation growing over the hardstanding.
- 2.2 The limited area of land adjoining the western end of the woodland is proposed for the new small forest school structure and pedestrian footpath.
- 2.3 On the northern side of the former access road, the ground was uneven and had mounds of vegetated earth. There was also dumped rubbish/tipping on the site.
- 2.4 The boundaries of the site are open with the adjoining areas of the school grounds, apart from a former sports pitch area which is fenced off.
- 2.5 The remaining areas of the school grounds (outside the site) comprise school buildings, hardstanding, grassland, woodland and hedgerows.
- 2.6 The site is situated in a rural location, to the south west of the village of Bagworth. There are fields to the north, north east and north west, Bagworth Road (B585) adjoining on the south western boundary (with scattered houses/barns and fields beyond) and Heath Road adjoining on the south eastern boundary (with fields beyond).

3. METHODOLOGY

3.1 Baseline Ecological Conditions

- 3.1.1 The ecological baseline was established through desk study and site surveys as outlined below.

3.2 Desk Study

- 3.2.1 Leicestershire and Rutland Environmental Records Centre (LRERC) was consulted to provide locations and details of ecological information for the site and to a study area distance of 2km around it.

The following information was requested:

- designated nature conservation sites (statutory and non-statutory);
- previous records of protected and/or notable species;

- 3.2.2 The following websites were also reviewed:

- www.magic.gov.uk (the Multi-Agency Geographic Information website for maps of statutory designated nature conservation sites);
- www.naturalengland.org.uk (for information on statutory designated nature conservation sites) and
- www.nbn.org.uk (National Biodiversity Network website for protected species distribution).

3.3 Site Surveys

3.3.1 Survey Area

- a) The Extended Phase-1 habitat survey and badger survey area is shown in Figure 4, Appendix 1. The badger survey area also included the further area of adjoining grassland to the north and woodland to the south in the school grounds.

3.3.2 Survey Methodology

a) Extended Phase-1 Habitat Survey

- i) An Extended Phase-1 habitat survey of the site was carried out following the standard methodology (JNCC 2010, CIEEM 2018 – updated 2022). This involved systematically walking over the site and classifying each parcel of land on the basis of vegetation into one of approximately 90 habitat types (JNCC 2010). Notes were made on the structure and composition of habitats.

- ii) Any observations of invasive non-native species such as Japanese knotweed (*Fallopia japonica*) were also noted (if found to be present).
- iii) Target notes were used to record any habitats or features of particular interest and any sightings, signs or evidence of protected or notable faunal species or any potential habitat for such species, as detailed below:
 - The suitability of habitats was assessed for amphibians (including great crested newt *Triturus cristatus*);
 - The suitability of habitats was assessed for badger and any evidence of badger including setts, dung pits/latrines, badger paths, hairs, bedding, footprints and scratching trees/shrubs was noted;
 - Trees with features suitable for roosting bats were noted, such as hollows, cracks and cavities within trunks and branches (e.g. old woodpecker holes), crevices behind loose bark and ivy growth. Landscape features such as trees, shrubs and hedgerows were assessed for their potential suitability for bat foraging and commuting;
 - The suitability of habitats was assessed for hazel dormouse (*Muscardinus avellanarius*);
 - The suitability of habitats was assessed for nesting birds and
 - The suitability of habitats was assessed for reptiles.

b) Badger Survey

- i) A badger survey was carried out at the site following standard methodology (Hill *et. al.* 2005). The following field signs were searched for: footprints, dung pits, latrines, snuffle holes, runs through vegetation, hairs caught on fences and hedgerows and setts. Any setts found would be classified as well used, partly used or disused.

3.3.3 Survey Details

- a) Ecologist Susie Udall MSc MCIEEM CEnv carried out the Extended Phase-1 habitat survey and ecologist Dwayne Martin carried out the badger survey of the site on 31st August 2023.

3.3.4 Survey Limitations

- a) Only a brief assessment of the site was made and no systematic surveys to establish the presence/absence of protected species were undertaken (apart from badger). As such, a lack of evidence of a protected species does not necessarily indicate an absence of the species.
- b) It should be noted that a single visit to a site at any time of year is likely to miss a proportion of the plant species present.

- c) The ideal time to carry out an Extended Phase-1 habitat survey is during the plant growing season (i.e. April to September, inclusive) and this is also when faunal species are active. Therefore, there were no timing constraints for the survey.
- d) The optimal time for a badger survey is February to April, when badger territories are most actively marked. However, badger surveys can be carried out at other times of the year; therefore, surveying in August was not considered to be a significant survey limitation.
- e) The woodland and dense bramble scrub areas on the site (and close vicinity) could not be accessed fully due to dense vegetation; therefore, it is possible that further evidence of badger may have been missed in these areas (further survey is recommended in the optimal badger survey period; see Section 6.5.2 below).

3.4 Baseline Evaluation Criteria

- 3.4.1 Based upon the desk study and site surveys, an ecological evaluation of the site was undertaken using a combination of evaluation criteria for habitats and species, although the general framework follows that provided by CIEEM (CIEEM 2018 – updated 2022) (see Table 1 overleaf).
- 3.4.2 Where relevant the evaluation was made with reference to the statutory protection afforded to species and habitats.
- 3.4.3 Legal protection does not always correspond to conservation value. Some species (e.g. badger) are protected for reasons of animal welfare rather than conservation. Others are of national conservation value but are not protected by law (e.g. some Red Data Book species and UK BAP species).

Geographic Scale	Example of Ecological Feature
International (European)	An internationally designated site, e.g. Special Area of Conservation (SAC), Special Protection Area (SPA), Ramsar Site. Regularly occurring populations of internationally important species.
National	Site of national importance, e.g. Site of Special Scientific Interest (SSSI), National Nature Reserve (NNR). Regularly occurring populations of nationally important species.
Regional	Non-statutory site, e.g. Local Wildlife Site (LWS), Key Wildlife Site (KWS). Site supporting a regionally significant area of priority habitat and/or regionally significant population of legally protected/priority species.
Metropolitan, County, Vice-county or Other Local Authority-Wide Area	Non-statutory site, e.g. Local Wildlife Site (LWS), Key Wildlife Site (KWS), ancient woodland. Site supporting priority habitats, priority species and/or legally protected species of significance for the county.
Local	Habitats which enhance the local habitat resource, e.g. old species-rich hedgerow, deciduous woodland, pond, small areas of priority habitat or areas supporting small populations of legally protected/priority species which are not rare within the county, region or nationally.
Site	Habitats of limited ecological importance, e.g. scattered trees, hedgerows, woodland plantations, small areas of non-priority habitats that are of value for wildlife. Species of limited ecological importance.
Negligible	Hardstanding, bare ground, built environment and other areas with negligible biodiversity value, including for priority and legally protected species.

Table 1. Framework for Assessing the Ecological Value of Features

4. BASELINE ECOLOGICAL CONDITIONS

4.1 Desk Study¹

4.1.1 Designated Nature Conservation Sites

a) Statutory Sites

- i) There are no statutory designated nature conservation sites (e.g. Special Area of Conservation, SAC or Site of Special Scientific Interest, SSSI) within the survey site or within the 2km study area.

¹ A copy of the desk study data map is provided in Appendix 3. A full copy of the desk study data can be provided, on request.

b) Non-statutory Sites

- i) There is a historical potential non-statutory designated nature conservation site (i.e. potential Local Wildlife Site, pLWS) within the survey site and there is a potential LWS and a further six historical pLWS within the 2km study area. These are detailed below.
- ii) A map showing the locations of the non-statutory sites is shown in Appendix 3.
- iii) The information from LRERC states that for historical pLWS, there is no recent survey data and it is not known if the sites still have value.

Historical pLWS within 2km of the Survey Site

Grassland pLWS (Site Code 10945): Located at SK 446067, which includes the former access road and adjoining land on the eastern side of the survey site, the location of the proposed forest school structure and also the woodland (surveyed additionally for badgers) and the adjoining grassland to the north. Site register states the main habitat as mesotrophic grassland. This site is shown as No. 3 on the map in Appendix 3.

pLWS within 2km of the Survey Site

Hedge at Hill Farm, Barlestone pLWS (Site Code 90016): Located at SK 440065, approximately 298m to the south west of the survey site. Site register states the main habitat as hedgerow.

Historical pLWS within 2km of the Survey Site

Hedge pLWS (Site Code 10931): Located at SK 451065, approximately 662m to the east of the survey site. Site register states the main habitat as hedgerow.

Hedgerow pLWS (Site Code 10955): Located at SK 438069, approximately 574m to the north west of the survey site. Site register states the main habitat as hedgerow.

Hedgerow pLWS (Site Code 10962): Located at SK 434070, approximately 997m to the north west of the survey site. Site register states the main habitat as hedgerow.

Grassland pLWS (Site Code 10927): Located at SK 443074, approximately 834m to the north of the survey site. Site register states the main habitat as mesotrophic grassland.

Hedgerow pLWS (Site Code 10956): Located at SK 434066, approximately 882m to the west of the survey site. Site register states the main habitat as hedgerow.

Grassland pLWS (Site Code 10954): Located at SK 431063, approximately 875m to the north west of the survey site. Site register states the main habitat as hedgerow (although this might be an error).

4.1.2 Protected/notable Floral Species

- a) There are no previous records of protected/notable floral species within the survey site; however there are such records within the 2km study area (see below).
- b) Protected species legislation details are provided in Appendix 4.

Protected Floral Species within the 2km Study Area

Bluebell (*Hyacinthoides non-scriptus*): Four records from 2002 and 2019, closest is approximately 908m from the site.

Notable Floral Species within the 2km Study Area

Columbine (*Aquilegia vulgaris*): Three records from 2020, closest is approximately 1,716m from the site.

4.1.3 Protected/notable Faunal Species

- a) There are no previous records of protected or notable faunal species within the survey site; however, there are such records within the 2km study area (see below).
- b) Protected species legislation details are provided in Appendix 4. The notable species are listed as Priority Species on the national BAP and/or county BAP or the RSPBs Red and Amber Lists of Birds of Conservation Concern (Eaton *et al.* 2021).

Protected Faunal Species within the 2km Study Area

Amphibians:

Common toad (*Bufo bufo*): Two records from 2001 and 2015, closest is approximately 1,118m from the site.

Birds:

Schedule 1 bird species including **hobby** (*Falco subbuteo*), **kingfisher** (*Alcedo atthis*), **fieldfare** (*Turdus pilaris*) and **redwing** (*T. iliacus*): Records from 2000 to 2021, closest is for hobby approximately 685m from the site.

Invertebrates:

Narrow-bordered five-spot burnet moth (*Zygaena lonicerae*): One record from 2014, approximately 1,429m from the site.

Mammals:

Badger: Five records from 2010 to 2020, closest record is approximately 171m from the site.

Polecat (*Mustela putorius*): One record from 2022, approximately 916m from the site.

Brown long-eared bat (*Plecotus auritus*): Four records from 2017 to 2020, closest is approximately 57m from the site.

Common pipistrelle bat (*Pipistrellus pipistrellus*): Fifteen records from 2013 to 2020, the closest is approximately 65m from the site.

Daubenton's bat (*Myotis daubentonii*): Two records from 2013 to 2020, closest is approximately 940m from the site.

Leisler's bat (*Nyctalus leisleri*): Five records from 2017 to 2020, closest is approximately 1,118m from the site.

Nathusius' pipistrelle bat (*Pipistrellus nathusii*): Two records from 2020, approximately 1,415m from the site.

Natterer's bat (*Myotis nattereri*): One record from 2020, approximately 1,415m from the site.

Noctule bat (*Nyctalus noctula*): Nine records from 2013 to 2020, closest is approximately 65m from the site.

Nyctalus bat (*Nyctalus* sp.): One record from 2018, approximately 65m from the site.

Pipistrelle bat (*Pipistrellus* sp.): One record from 2013, approximately 789m from the site.

Serotine bat (*Eptesicus serotinus*): One record from 2020, approximately 1,415m from the site.

Soprano pipistrelle bat (*Pipistrellus pygmaeus*): Thirteen records from 2013 to 2020, the closest is approximately 65m from the site.

Unidentified bat (*Chiroptera* sp.): One record from 2022, approximately 57m from the site.

Unidentified bat (*Myotis* sp.): Seven records from 2013 to 2020, closest is approximately 65m from the site.

Western barbastelle bat (*Barbastella barbastellus*): One record from 2020, approximately 1,415m from the site.

Notable Faunal Species within the 2km Study Area

Birds:

Several bird species including **bullfinch** (*Pyrrhula pyrrhula*), **dunnock** (*Prunella modularis*), **house sparrow** (*Passer domesticus*), **song thrush** (*Turdus philomelos*), **starling** (*Sturnus vulgaris*) and **wren** (*Troglodytes troglodytes*): Records from 2022, approximately 1,443m from the site.

Invertebrates:

Butterflies, moths and beetles: Records from the wider vicinity.

Mammals:

Brown hare (*Lepus europaeus*): Record from 2023, approximately 1,567m from the site.

4.2 Site Surveys

4.2.1 Habitat Types

- a) The following Phase-1 habitat types were recorded on the site:
- Bare ground
 - Building (structure)
 - Dense scrub
 - Ephemeral/short perennial
 - Fencing
 - Hardstanding
 - Scattered broadleaved tree
 - Scattered scrub
 - Semi-improved neutral grassland
 - Species-poor defunct hedgerow
 - Standing open water
 - Tall ruderal
- b) The distribution and extent of the Phase-1 habitat types recorded on the site and location of target notes are shown in Figure 4, Appendix 1. Habitat and target note descriptions are provided overleaf.
- c) In the text species are referred to using their English names and their scientific names. Nomenclature follows The National Biodiversity Network Species Dictionary.

4.2.2 Habitat Descriptions

a) Bare Ground

- i) Disturbed bare soil occurred in the proposed forest school structure location on the south western side of the site, with patches of tall ruderal vegetation (see k) below) (see photographs 1, 2 and 3, Appendix 2).

b) Building/structure

- i) Two Portakabin buildings occurred near the proposed forest school structure location (see photograph 4, Appendix 2). They were in a poor state of repair.

c) Dense Scrub

- i) Limited areas of tall, dense mature bramble (*Rubus fruticosus* agg.) scrub occurred on the eastern side of the site (see photographs 5 to 9, Appendix 2). Other species included elder (*Sambucus nigra*) and hawthorn (*Crataegus monogyna*), with common nettle (*Urtica dioica*), creeping thistle (*Cirsium arvense*), mugwort (*Artemisia vulgaris*), hedge bindweed (*Calystegia sepium*) and false oat-grass (*Arrhenatherum elatius*).

d) Ephemeral/short Perennial

- i) This type of vegetation occurred in areas of hardstanding along the former access road (see photographs 10 to 13, Appendix 2). Species included greater plantain (*Plantago major*), black medick (*Medicago lupulina*), white clover (*Trifolium repens*), selfheal (*Prunella vulgaris*), common mouse-ear (*Cerastium fontanum*) and ribwort plantain (*Plantago lanceolata*).

e) Fencing

- i) Metal security fencing occurred around a former sports pitch on the western side of the site.

f) Hardstanding

- i) There was tarmac near the entrance to Heath Road and on the former access road though the site (see photographs 5, 6, 7, 9 to 13 and 15). There was also some crushed stone hardstanding in the former sports pitch and on pathways on the western side of the site.

g) Scattered Broadleaved Tree and Scrub

- i) Several scattered young trees and mature shrubs occurred along the former access road (see photographs 12, 14 and 15, Appendix 2). Species mainly included willow (*Salix* spp.), with Prunus, hawthorn and bramble. Dog rose (*Rosa canina* agg.) was also recorded.

- ii) There is a mature ash (*Fraxinus excelsior*) tree near the Portakabin buildings.

h) Semi-improved Neutral Grassland

- i) This type of grassland covered the majority of the site (see photographs 14 to 19, Appendix 2).
- ii) The sward was unmanaged and was a mixture of rank and fine-leaved grasses. The sward was mostly tall, although there was some shorter emerging grassland adjoining the former access road.
- iii) Grass species included false oat-grass, cock's-foot (*Dactylis glomerata*), Timothy (*Phleum pratense*), Yorkshire-fog (*Holcus lanatus*), rough meadow-grass (*Poa trivialis*), sweet vernal-grass (*Anthoxanthum odoratum*), common bent (*Agrostis capillaris*) and red fescue (*Festuca rubra*). Soft rush (*Juncus effusus*) and hard rush (*J. inflexus*) were also recorded.
- iv) Broadleaved herbaceous species were recorded frequently and included creeping buttercup (*Ranunculus repens*), ribwort plantain, tufted vetch (*Vicia cracca*), common knapweed (*Centaurea nigra*), common sorrel (*Rumex acetosa*), common cat's-ear (*Hypochoeris radicata*), selfheal, red clover (*Trifolium pratense*), hairy tare (*Vicia hirsuta*) and yarrow (*Achillea millefolium*).
- v) Ruderal species recorded included broadleaved dock (*Rumex obtusifolius*), creeping thistle, spear thistle (*Cirsium vulgare*), common ragwort (*Senecio jacobaea*), prickly lettuce (*Lactuca serriola*) and great willowherb (*Epilobium hirsutum*). Scattered bramble scrub and ash (*Fraxinus excelsior*) seedlings were also recorded.

i) Species-poor Defunct Hedgerow

- i) A short section of mature, native hedgerow occurred on the site (see photograph 20, Appendix 2).
- ii) The hedgerow was tall, unmanaged, being approximately 3m high and 2m wide. It extended further to the north east (outside the site) It was dominated by hawthorn and blackthorn (*Prunus spinosa*), with elder, holly (*Ilex aquifolium*), bramble and dog rose. The ground flora included false oat-grass.
- lii) There were also tall and unmanaged hawthorn dominated hedgerows on some of the boundaries of the area proposed for the new forest school structure (see photographs 3 and 4, Appendix 2).

j) Standing Open Water

- i) A small pond/area of standing water (measuring 6m x 6m) occurred along the edge of the former access road (see photographs 21 and 22, Appendix 2). There was limited

water, with marginal vegetation recorded including common bulrush (*Typha latifolia*), soft rush and jointed rush (*Juncus inflexus*).

- i) There was a short section of ditch (approximately 1m wide) on the south western site boundary (see photographs 23 and 24, Appendix 2). The ditch contained water (with duckweed *Lemna* sp. recorded) and was shaded by the adjacent mature hedgerow.

k) Tall Ruderal

- i) This type of vegetation occurred in patches throughout the site (see photographs 17 and 19, Appendix 2). The vegetation was tall and unmanaged and included common nettle, creeping thistle and great willowherb, with bittersweet (*Solanum dulcamara*). On the northern boundary on the eastern side of the site and in the location of the proposed forest school structure the vegetation also occurred on mounds of earth.

l) Adjacent Habitats

- i) The site is situated in a rural location, to the south west of the village of Bagworth. There are fields to the north, north east and north west, Bagworth Road (B585) adjoining on the south western boundary (with scattered houses/barns and fields beyond) and Heath Road adjoining on the south eastern boundary (with fields beyond) (see photographs 5, 6 and 25, Appendix 2).

4.2.3 Target Notes

- 1) A dead common toad found near the wet ditch on the site.
- 2) Fresh badger dung found in six separate locations around the site (see photograph 26, Appendix 2).
- 3) Large pile of discarded materials (including logs, tyres, metal, wood, concrete, brick rubble, plastic etc.), providing potential cover and sheltering habitat for amphibians and reptiles (see photographs 27, 28 and 29, Appendix 2).
- 4) Reasonably small pile of rubble/discarded items, providing potential cover and sheltering habitat for amphibians and reptiles (see photograph 30, Appendix 2).

4.2.4 Protected/notable Species

a) Plants

- i) Non non-native highly invasive plant species were recorded on the site (although a specific search for such plants was not carried out).

b) Amphibians

- i) A dead common toad was found near the wet ditch on the site (see target note 1 in Section 4.2.3 above and in Figure 4, Appendix 1).
- ii) There is a pond/area of standing water and a wet ditch on the site providing some potential amphibian breeding habitat.
- iii) The grassland, scrub and hedgerows on the site and grassland, scrub, woodland and hedgerows adjoining the site provide good potential terrestrial habitat for amphibians, providing potential cover, shelter, foraging, commuting/dispersal routes and hibernation habitat.
- iv) The piles of rubble and discarded items on the site, provide potential cover, shelter and hibernation habitat for amphibians (see target notes 3 and 4 in Section 4.2.3 above and in Figure 4, Appendix 1 and photographs 27 to 30, Appendix 2).

c) Badger

- i) Fresh badger dung was found along the former access road, near the proposed forest school structure location and within the woodland (see target note 2 in Section 4.2.3 above and in Figure 4, Appendix 1 and photograph 26, Appendix 2).
- ii) No badger setts were recorded on the site (although the woodland and scrub habitats were dense and therefore a further badger survey at the optimal time of year is proposed and this is also when the vegetation has died back and leaves are off trees/shrubs which would make searching for badger setts easier).
- iii) The scrub and hedgerows on the site and scrub, hedgerow and woodland adjoining the site provide good potential badger sett building habitat
- iv) The grassland on the site (particularly the shorter areas along the former access road) provides some potential badger foraging opportunities.

d) Bats

- i) The mature ash tree on the site and the mature trees in the adjoining woodland may contain features providing potential bat roosting habitat.
- ii) The scrub and hedgerows on the site and hedgerows, scrub and woodland in the vicinity provide potential habitat for insects and thus potential bat foraging and commuting habitat.

e) Birds

- i) The trees, shrubs and hedgerows on the site provide potential bird nesting habitat.

f) Hazel Dormouse

- i) The scrub and hedgerows on the site provide limited/poor potential habitat for hazel dormouse. The woodland and more extensive hedgerows in the vicinity provide some potential habitat for this species.

g) Reptiles

- i) The grassland (including a mixture of short and long, fine and rank) and edges of scrub and hedgerows on the site, provide good potential habitat for reptiles, providing potential cover, shelter, foraging, commuting/dispersal routes and hibernation habitat. The shorter grassland areas and bare ground provide potential reptile basking habitat.
- ii) The piles of rubble and discarded items on the site, provide potential cover, shelter and hibernation habitat for reptiles (see target notes 3 and 4 in Section 4.2.3 above and in Figure 4, Appendix 1 and photographs 27 to 30, Appendix 2).

h) Other Species

- i) Rabbits (*Oryctolagus cuniculus*) and droppings were recorded along the former access road on the site.
- ii) The grassland, scrub and bases of the hedgerows on the site provide some potential for hedgehog (*Erinaceus europaeus*).

5. ECOLOGICAL EVALUATION**5.1 Designated Nature Conservation Sites****5.1.1 Statutory Sites**

- a) There are no SSSI on the survey site or within the 2km study area.
- b) Therefore, this type of designated site will not be affected by the proposed development works.

5.1.2 Non-statutory Sites

- a) There is one potential LWS within the 2km study area, approximately 298m away from the proposed development site.
- b) There is a historical pLWS on the eastern side of the survey site (covering the proposed former access road and adjoining emerging vegetation/grassland and scrub and pond/area of standing water and also the area for the proposed forest school building), with further areas outside the survey site but within the schools land holding, including the grassland adjoining to the north and the woodland adjoining to

the south (see map in Appendix 3). The part of the survey site within the historical pLWS has already been disturbed in the past with a former access road and hardstanding areas; however, it is now vegetating over with grassland, scattered trees/scrub and there is a small pond/area of standing water in this area. Also, the area proposed for the new forest school building has been disturbed and comprises mainly bare ground and tall ruderal vegetation. The longer established grassland adjoining to the north and the mature woodland to the south and east, will not be lost due to the proposed development works. Therefore, we recommend mitigation is carried out to ensure that the adjoining areas are not adversely impacted and the losses of emerging vegetation within the survey site are appropriately compensated (see Section 6.2.1 below).

- c) There are a further six historical pLWS within the study area, the closest is 574m away.
- d) LWS are areas of nature conservation interest adopted by local authorities for planning purposes. These are not statutory designations, but are a material consideration in the planning system.
- e) Due to the type of development works proposed and the distances from the proposed development site, it is considered that the pLWS and the further six historical pLWS in the vicinity will not be adversely affected by the proposed development works. No mitigation or further surveys are recommended for these potential non-statutory sites.

5.2 Habitats

- 5.2.1 The ecological evaluation of the habitats on the site is summarised in Table 2 overleaf. The habitats on the site are common low-grade habitats considered to be of site ecological value. Mature hedgerow is of highest relative value in this category.
- 5.2.2 Hedgerow is listed as a Habitat of Principal Biological Importance on Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 and as a Priority Habitat on the national BAP and county BAP. However, the hedgerows on the site are not species-rich or ancient and are also limited in extent.
- 5.2.3 General mitigation, compensation and enhancement measures are recommended to avoid/minimise adverse impacts to habitats (see Sections 6.2, 6.3 and 6.4 below).

Habitat	Reason for Valuation
Site Value	
Dense scrub	Botanically species-poor and limited in extent, although it is mature and provides potential badger sett building habitat, bat foraging habitat, nesting bird habitat and cover and sheltering habitat for amphibians, reptiles and hedgehog.
Ephemeral/short perennial	Botanically species-poor; however, in areas adjoining grassland and scrub, provides some potential reptile basking habitat.
Scattered broadleaved tree	Young, limited in extent and species diversity. Provides some limited potential bird nesting habitat.
Scattered scrub	Limited in extent and species diversity. Provides some potential bird nesting habitat.
Semi-improved neutral grassland	Covers the majority of the site and contains some plant species indicative of longer established swards. Provides potential cover and sheltering habitat for amphibians (including great crested newts), reptiles and hedgehog.
Species-poor defunct hedgerow	Mature and composed of native species. Unlikely to qualify as 'important' under the Hedgerow Regulations (1997). The hedgerows provide some limited potential bat foraging and commuting habitat, badger sett building habitat, nesting bird habitat and cover and sheltering habitat for amphibians (including great crested newt) and reptiles at the base of the hedgerow.
Standing open water	The pond/area of standing water and wet ditch are limited in extent; however, characteristic wetland plants are present and they provide some potential amphibian breeding habitat.
Tall ruderal	Limited in extent and botanically species-poor. Provides some limited potential cover and sheltering habitat for amphibians (including great crested newt) and reptiles.
Negligible Value	
Bare ground	Limited in extent; however, provides some potential basking habitat for reptiles.
Building (structure)	Provides poor potential for faunal species.
Fencing	Provides poor potential habitat for faunal species.
Hardstanding	Provides poor potential habitat for faunal species.

Table 2: Summary of Ecological Evaluation of the Habitats on the Site

5.3 Protected/notable Species²

5.3.1 Floral Species

- a) None of the species recorded during the survey are specifically protected by the Wildlife and Countryside Act (WCA) 1981 (as amended) or considered rare nationally or locally (e.g. Preston *et al.* 2002). Also, none of the species recorded are listed as Species of Principal Biological Importance on Section 41 of the NERC Act 2006 or as Priority Species listed on the national BAP or county BAP.

² Protected species legislation is provided in Appendix 4.

- b) No further botanical surveys are recommended.

5.3.2 Faunal Species

a) Amphibians

- i) Common toad was recorded on the site. This species is listed as a Species of Biological Importance on Section 41 of the NERC Act 2006 and a Priority Species on the national BAP. It is a widespread species that although reasonably common is declining in abundance. It is given some legal protection under the WCA 1981 (as amended), in respect of Section 9 (5) which prohibits sale, transportation or advertising for sale.
- ii) The habitats present on the site and in the vicinity suggest that the site may be used to a degree by local amphibian populations. There is a small pond/area of standing water and a wet ditch on the site (providing potential amphibian breeding habitat on the site) and according to the Magic Map website there are a further four ponds within 500m of the site (see Figure 1, Appendix 1), and the site provides good potential terrestrial habitat. It is possible that the pond near the school buildings to the south west may have been filled in but this will be confirmed by a site visit in spring (see Section 6.5.1 below).
- iii) There are no previous records for great crested newt (a specially protected amphibian) from within the 2km study area (however, they could be under-recorded in the area). However, due to the nature of the habitats on and surrounding the site, the presence of great crested newt on the site cannot be ruled out. The site could potentially be used for great crested newt breeding, cover, shelter, commuting, foraging and hibernation.
- iv) As great crested newts and their breeding and terrestrial habitat are fully protected under European wildlife legislation (from harm, injury, disturbance, loss and damage), it is essential to confirm the presence/absence of great crested newts in the pond and ditch on the site and four further ponds within 500m of the site. It is considered that great crested newt could constrain development proposals. Therefore, further great crested newt surveys are recommended (see Section 6.5.1 below).
- v) At this stage precautionary mitigation is recommended for common amphibians (see Section 6.2.4 below).

b) Badger

- i) Fresh badger dung was found throughout the site and therefore, it is evident that badgers use the site for passage, commuting and foraging. Further badger survey in the optimal badger survey period would be required to confirm the presence/absence of badger setts on the site (see Section 6.5.2 below).
- ii) Five previous records for badger were revealed by the desk study, with the closest record being approximately 171 away from the site.

- iii) At this stage best practice measures are recommended (see Section 6.2.5 below).

c) Bats

- i) The site provides some potential bat foraging and commuting habitat.
- ii) No woodland or mature trees are proposed for removal and only a limited section of one hedgerow is to be removed (the northernmost hedgerow on the site); therefore, adverse impacts to bat foraging and commuting due to vegetation loss should not be significant. However, new lighting for the proposed development could cause adverse impacts to bat roosting, foraging and commuting in the close vicinity (e.g. the woodland, scrub and hedgerows) due to light spill.
- iii) Mitigation measures for lighting on the proposed development site and also enhancement measures are recommended for bats (see Sections 6.2.6 and 6.4.2 below).
- iv) A bat activity/transect survey and remote monitoring is recommended for May/June 2024, to determine species of bat using the site/close vicinity for foraging and commuting (see Section 6.5.3 below).

d) Birds

- i) The trees, shrubs and hedgerows on the site provide potential bird nesting habitat for a variety of bird species.
- ii) Due to the nature of the habitats on the site, it is considered unlikely that any nesting birds on the site would be specially protected, i.e. those listed on Schedule 1 of the WCA 1981 (as amended).
- iii) All birds are protected under the WCA 1981 (as amended) whilst breeding. This legislation protects nests, eggs and unfledged young from damage or destruction.
- iv) During any tree, shrub/dense scrub and hedgerow removal there could be adverse impacts to nesting birds; therefore mitigation and a further nesting bird check are recommended (see Sections 6.2.7 and 6.5.4). Compensation and enhancement measures are recommended (see Sections 6.3.8 and 6.4.3 below).

e) Hazel Dormouse

- i) There are no previous records for hazel dormouse for the 2km study area and the scrub and hedgerows on the site provide limited/poor potential habitat for this species.
- ii) We consider adverse impacts to this species are unlikely. No further surveys or mitigation for this species are required.

f) Reptiles

- i) There are no previous records for reptiles for the site or 2km study area.
- ii) The site provides good potential habitat for reptiles; therefore, reptile surveys are recommended to determine their presence/absence on the site (see Section 6.5.5 below).

g) Hedgehog

- i) The site provides some potential habitat for hedgehog.
- ii) Hedgehog is a notable species being listed as a Species of Principal Biological Importance on the NERC Act 2006 and as a Priority Species on the national BAP.
- iii) Some precautionary mitigation/best practice measures are recommended (see Section 6.2.4 below).

5.4 Main Potential Ecological Issues

- 5.4.1 The main potential ecological constraints associated with the proposed development works are (i) damage/disturbance to adjoining areas of the historical pLWS on the site, (ii) loss/damage/disturbance to habitats, (iii) disturbance to roosting, commuting and foraging bats on the site and/or in the vicinity (due to limited habitat loss and also more significantly new lighting), (iv) harm/injury/disturbance to individual great crested newts, (v) loss/damage/disturbance to great crested newt terrestrial and breeding habitat, (vi) harm to nesting birds, (vii) loss of bird nesting habitat and (viii) harm and injury to reptiles.
- 5.4.2 Further badger, bats, great crested newt and reptile surveys are required (see Section 6.5 below).
- 5.4.3 There are ecological opportunities with habitat creation, native planting and faunal species enhancements.
- 5.4.4 A summary is provided in Table 3 overleaf.

Habitat/Species	Potential Ecological Issue
Potential Negative Impacts (Constraints)	
Damage/disturbance to adjoining areas of the historical pLWS on the site	Damage/disturbance to grassland and woodland. Buffer zones for adjoining areas of grassland, woodland, hedgerows and trees should avoid unnecessary disturbance.
Loss/damage/disturbance to habitats	Loss/damage/disturbance to grassland, trees, scrub, hedgerows and pond/ditch on the site. Losses of habitats should be minimised and compensated.
Great crested newt	Potential harm, injury and disturbance to individual great crested newts and potential loss/damage/disturbance of great crested newt breeding and terrestrial habitat during site clearance works. However, if further great crested newt surveys are carried out and appropriate mitigation and compensation implemented (if required) then negative impacts should be avoided/minimised.
Badger	A further badger survey at the optimal time of year is required to confirm presence/absence of badger sett on the site. If mitigation is implemented (if required) then negative impacts should be avoided/minimised.
Bats	Disturbance to roosting/commuting/foraging bats on the site and in the close vicinity due to habitat loss and new lighting. A further bat survey/remote monitoring is required. If appropriate mitigation/compensation implemented then negative impacts could be avoided/minimised.
Nesting birds	Harm and injury to nesting birds if any hedgerow/tree/shrub/dense scrub removal is carried out during the bird breeding season. If works are carried out outside the bird breeding season and/or a nesting bird check is firstly carried out, then adverse impacts should be avoided. Habitat loss.
Reptiles	Potential harm, injury to individual reptiles and potential loss/damage/disturbance of reptile habitat during site clearance works. However, if further reptile surveys are carried out and appropriate mitigation and compensation implemented (if required) then negative impacts should be avoided/minimised.
Common amphibians and hedgehog	During site clearance works, there could be harm and injury to common amphibians and hedgehogs. However, if best practice measures are implemented then negative impacts should be avoided/minimised.
Potential Positive Impacts (Opportunities)	
Habitat creation	Native wildflower grassland, native species-rich lawn, wildlife ponds and native species-rich hedgerow.
Landscaping	Native trees and shrubs.
Fauna	Bat, bird and hedgehog boxes should be installed.

Table 3: Summary of Main Potential Ecological Issues

6. RECOMMENDATIONS

6.1 Introduction

6.1.1 Wherever possible, negative ecological impacts should be avoided. If this is unavoidable then mitigation and compensation measures will be proposed for adverse ecological effects. In addition, it is best practice to seek positive biodiversity benefits through enhancement measures, in particular with regard to Priority Habitats and Species listed on the national and local Biodiversity Action Plans and the NERC Act 2006.

6.1.2 The Royal Town Planning Institute (November 2019) states the following regarding biodiversity in the planning system:

“In accordance with national planning and biodiversity policies and legislation, LPAs need to ensure that planning applications and permitted developments take account of their potential biodiversity impact and provide opportunities to support biodiversity protection and ecological enhancement.”

6.1.3 Planning authorities are required to actively seek in development proposals, measures that aim to promote appropriate Priority Habitats and Species listed in the UK Biodiversity Action Plan and treat these as ‘material considerations’.

6.1.4 The National Planning Policy Framework (NPPF, September 2023) states at paragraphs 170 and 174, respectively:

“Planning policies and decisions should contribute to and enhance the natural and local environment by:...d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures...”

“To protect and enhance biodiversity and geodiversity, plans should:...b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.”

6.2 Mitigation Recommendations

6.2.1 Historical pLWS on the Site (Mitigation)

- a) The adjoining grassland to the north east and woodland to the south (within the historical pLWS; see Appendix 3) must be avoided.
- b) Temporary storage of building materials/equipment etc. is not permitted in the adjoining grassland and woodland in the historical pLWS. This is to avoid unnecessary

damage/disturbance to the habitats. Heras fencing will be installed along the edges of the site boundaries to ensure there is no accidental transgression into these adjoining areas.

6.2.2 Habitats (Mitigation)

- a) The section of mature native hedgerow to be removed will be kept to an absolute minimum and compensated (see Section 6.3.1 below).
- b) The mature ash tree will be retained. Any young trees and shrubs/dense scrub removed will be kept to an absolute minimum and compensated (see Section 6.3.2 below).
- c) No storage of materials, equipment or plant will take place under the 'drip-zone' of the mature tree on the site and those in the vicinity (i.e. under their canopy). Best practice will be followed (i.e. BS5837:2012 Trees in Relation to Construction) to ensure individual trees are not adversely affected.
- d) Grassland loss will be kept to an absolute minimum compensated (see Sections 6.3.3 and 6.3.4 below).
- e) Ideally the pond/area of standing water would be retained; however, if it is to be lost (which is likely), then this will be compensated (see Section 6.3.5 below). The wet ditch on the south western side of the site will be retained.
- f) Best practice will be used to ensure that water quality in the retained ditch on the site is not affected by leakage of oil or diesel from machinery or tools. All development works will adhere to UK government guidelines for works near water:
<https://www.gov.uk/guidance/pollution-prevention-for-businesses>

6.2.3 Great Crested Newts and Reptiles (Mitigation)

- a) Further surveys for great crested newts and reptiles will be required prior to any site clearance works/development works commencing (see Sections 6.5.1 and 6.5.5 below). Mitigation for these species may be required depending on the results of the further surveys.

6.2.4 Common Amphibians and Hedgehog (Precautionary Mitigation)

- a) Prior to site clearance trim the grassland and tall ruderal vegetation and the base of hedgerow (to be affected by the proposed works) and check for any common amphibians and hedgehogs. However, the further great crested newt surveys and reptile surveys will firstly be carried out prior to any vegetation strimming works and further updated mitigation measures may be required.
- b) If any common amphibians or hedgehogs are found during site clearance works, the site worker will carefully remove the animal by hand (with thick gloves for hedgehogs) and place them under hedgerows outside the proposed development works area.

6.2.5 Badger (Mitigation)

- a) A further badger survey is required during the optimal badger survey period (see Section 6.5.2 below).
- b) General best practice measures include that if any trenches dug during works activities are left open over night, they will be left with a sloping end or ramp to allow any badgers or other animal that may fall in to escape. Any development works excavations holes will be covered over at night. Also, any pipes over 200mm in diameter will be capped off at night to prevent animals entering.

6.2.6 Bats (Precautionary Mitigation)

- a) A further bat activity/transect survey and remote monitoring is required for May/June 2024 (see Section 6.5.3 below).
- b) Any new lighting for the proposed development will conform to Bat Conservation Trust (BCT) guidelines. Any new lighting will be sympathetic to the needs of roosting, foraging and commuting bats and other nocturnal wildlife such as badgers.
- c) The woodland and hedgerows near the site boundaries and existing hedgerow and any new hedgerow, tree and shrub planting on the site will be left in darkness, as these habitats provide potential bat foraging and commuting opportunities.
- d) If lighting is required for security on the site, shrouded down lights will be used on the exterior walls of the new buildings and any other exterior lighting positioned on posts or bollards that are closer to the ground and directed downwards. The lights will be activated by a time sensor with a low movement sensitivity, so as not to be triggered by wildlife.
- e) The following measures are recommended:
 - All external lighting to be on timer switches, so lights go off after 'X' seconds.
 - There will be no lighting near hedgerows, woodland and trees as these are especially important for bat commuting/foraging.
 - Use high quality infra-red lighting if security cameras are to be installed rather than actual lighting.
 - As low a Lux level as possible.
- f) All lighting on the development will support the Dark Skies initiative (DEFRA/NPPF Guidance 2013).

6.2.7 Nesting Birds (Mitigation)

- a) We recommend any hedgerow, tree or shrub/dense scrub removal is carried out outside the bird breeding season (which runs from March to September, inclusive), to avoid adverse impacts to nesting birds. However, if works are carried out during the bird

breeding season, firstly a nesting bird check would be required (see Section 6.5.4 below).

6.3 Compensation Recommendations

6.3.1 Native Species-rich Hedgerow

- a) We recommend new native species-rich hedgerows, to exceed the length lost due to the proposed development, are planted elsewhere on the site boundaries, e.g. along new boundary fencelines. They will be planted with a variety of native shrubs, with occasional native trees and native climbers and under-planted with native herbaceous species. A list of suitable species for planting is provided in Appendix 5 (including the Emorsgate EH1 ground flora species).
- b) The new hedgerows (once established) will be managed sympathetically for wildlife by trimming once a year in February (to allow berries to overwinter on the shrubs for a feeding resource for birds).

6.3.2 Trees and Shrubs

- a) We recommend native tree and shrub planting (to exceed the number lost to the development) is carried out on the site. A list of suitable native species for planting is provided in Appendix 5.

6.3.3 Native Wildflower Grassland

- a) We recommend any existing retained areas of grassland within the site (and also in the wider school grounds) are diversified by planting or sowing a range of grasses and broadleaved herbaceous species. A list of suitable species for sowing is provided in Appendix 5.
- b) The wildflower grassland will provide pollen and nectar for insects, a foraging resource for birds, cover and shelter for reptiles and amphibians and the insect life a foraging resource for bats.
- c) Also, the wildflower grassland will provide a visually attractive feature for the pupils, staff and visitors at the site.
- d) The wildflower grassland will require annual mowing to maximise its wildlife potential and prevent scrub and tree encroachment. The wildflower grassland will be mown once a year in late September. This regime will allow the plants to flower and set seed, increasing the grassland areas value by providing a food resource for invertebrates. The grass cuttings will be raked up and removed from the grassland area to prevent nutrient enrichment of the soil, which could lead to a reduction in plant diversity by favouring the growth of coarse grass species. The grass cuttings will be stored in designated habitat piles near the bases of new hedgerows and near the new wildlife ponds. The

habitat piles would provide potential cover and shelter for a variety of faunal species (including amphibians and reptiles) and also potential egg-laying sites for grass snake.

6.3.4 Flower-rich Lawn

- a) In any areas of new amenity grassland, we recommend a native wildflower grassland mixture is sown such as an Emorsgate lawn mixture (EL1 – Flowering Lawn Mixture), which includes a greater variety of broadleaved herbaceous species and grasses than the usual monocultures or species-poor mixtures generally used (see list in Appendix 5). This lawn mixture is also tolerant of more frequent mowing.

6.3.5 Wildlife Ponds

- a) We recommend two wildlife ponds are created on the site.
- b) The ponds will be designed for wildlife, including amphibians and insects. No fish will be introduced. The ponds will vary in depth (approximately a maximum depth of 1m in the middle) and will be filled naturally from rain water. Once the water levels have been established marginal and aquatic plants will be planted. The marginal planting will mainly be on the northern banks to reduce shading of the ponds. A list of plant species suitable for planting is provided in Appendix 5. The plants will be planted at the correct depths and with appropriate spacing to allow growth and spread. These plants will provide shelter for amphibians and aquatic invertebrates. Extreme care will be taken to ensure that no aggressive non-native plant species are introduced accidentally, such as New Zealand pygmyweed (*Crassula helmsii*), water-fern (*Azolla filiculoides*) and least duckweed (*Lemna minuta*).

6.3.6 Great Crested Newts and Reptiles

- a) Compensation for these species may be required depending on the results of the further surveys (see Sections 6.5.1 and 6.5.5 below).

6.3.7 Badger

- a) Compensation for badger may be required depending on the results of the further survey (see Section 6.5.2 below).

6.3.8 Birds

- a) We recommend a variety of general bird nesting boxes are installed on the new buildings on the site.
- b) The bird nesting boxes will be positioned on the new buildings at least 3m above the ground and facing north or north east, to avoid direct sunlight.
- c) Bird box details and specifications are provided in Appendix 6.

6.4 Enhancement Recommendations

6.4.1 Landscaping

- a) We recommend planting native and some non-native species (those which are also attractive to wildlife) within any new landscaped areas on the proposed development site. A list of suitable species for planting is provided in Appendix 5. It would be desirable to plant native trees, shrubs and climbers that carry seed, fruit and berries as a winter food source for wildlife (see Appendix 5).
- b) Native species tend to be more attractive and beneficial to wildlife than non-native species. They would provide food and nesting sites for birds and nectar for insects. As any landscaping areas are not to be 'wild' as such, species recommended are generally low-growing and not invasive.

6.4.2 Bats

- a) We recommend an integrated bat roosting box is built into the exterior walls of each of the proposed new buildings on the site. These would enhance the biodiversity of the site. However, no exterior lighting would be permitted above or below the bat roosting box to ensure that no light spill on the bat box which would deter usage.
- b) The bat boxes should be installed at least 4m to 5m above the ground on a south or south west facing aspect.
- c) Bat box details and specifications are provided in Appendix 6.

6.4.3 Birds

- a) We recommend artificial bird nest boxes suitable for house sparrow and house martin are installed on each of the proposed new buildings on the site.
- b) The bird boxes should be positioned high under the eaves facing north or north east, to avoid direct sunlight.
- c) Bird box details and specifications are provided in Appendix 6.

6.4.4 Hedgehog

- a) Install two hedgehog boxes in the bases of the retained hedgerows on the site.
- b) Hedgehog box details and specifications are provided in Appendix 6.

6.5 Further Survey Recommendations

6.5.1 Great Crested Newt

- a) An initial assessment in early spring 2024 will be carried out to ascertain if the pond/ditch on the site and ponds in the vicinity contain water in spring and therefore provide potential great crested newt breeding habitat. A Habitat Suitability Index (HSI) assessment (The Herpetological Conservation Trust³) would be carried out at the ponds/ditch within 500m of the proposed development site. This will involve a site visit by an ecologist to assess the ponds/ditch. A system using HSI scores to define pond suitability for great crested newts is on a categorical scale as follows:

HSI score		Pond suitability
<0.5	=	Poor
0.5 – 0.59	=	Below average
0.6 – 0.69	=	Average
0.7 – 0.79	=	Good
> 0.8	=	Excellent

- b) If the ponds/ditch are deemed to provide potential great crested newt breeding habitat then full great crested newt surveys should be carried out at the ponds/ditch. The ponds/ditch would be surveyed to determine whether great crested newts are breeding in the ponds/ditch.
- c) The minimum survey effort required for a pond/ditch to reasonably demonstrate an absence of great crested newt is torch survey, bottle trapping (involving setting bottle traps on an evening visit and collecting the traps the following morning) and egg searching on four site visits in suitable weather conditions between mid-March and mid-June, with at least two of these visits during mid-April to mid-May (English Nature 2001).
- d) If great crested newts were found on any of these visits then two further visits would be made (totalling six visits) to provide a population estimate. This would be required to inform a European Protected Species mitigation licence application to Natural England (if great crested newts were present).
- e) Also, an initial environmental eDNA (eDNA) survey could be carried out at the ponds/ditch which would involve using a standard sampling kit provided by e.g. ADAS. The eDNA analysis would be carried out by a professionally qualified company, e.g. ADAS. The eDNA sampling will be carried out in accordance with DEFRA WC1067 Technical Guidance Report. The eDNA survey can be carried out between 15th April and 30th June. Health and safety guidelines and good practice would be followed during the survey. However, if the eDNA sampling revealed the presence of great crested newts in the ponds/ditch, then further full great crested newt surveys (i.e. six survey visits) of the

³ The HCT provide guidance on a slightly simplified version of the HSI which was adopted for the National Amphibian and Reptile Recording Scheme (NARRS). The original HSI article is found in Oldham *et al* (2000).

ponds/ditch will likely be required in the optimal survey period in 2024 (i.e. mid-March to mid-June, with three of the visits being required before mid-May).

- f) Alternatively the great crested newt District Level Licensing Scheme could be applied for, which would not require further great crested newt surveys, although it would require an enquiry fee, licence fee and a conservation payment to be made. Further details can be found at:
<https://www.gov.uk/guidance/great-crested-newts-district-level-licensing-for-local-planning-authorities>

6.5.2 Badger Survey

- a) A further badger survey will be carried out following standard methodology in February to April, in the optimal badger survey period and also when the herbaceous vegetation has died down (Hill *et. al.* 2005). The following field signs would be searched for: footprints, dung pits, latrines, snuffle holes, runs through vegetation, hairs caught on fences and hedgerows and setts. Any setts found would be classified as well used, partly used or disused.

6.5.3 Bat Activity Surveys/Remote Monitoring

- a) A bat ecologist would carry out a bat activity/transect survey of the site in May/June 2024. This would involve walking transects across and around the site and recording bat passes using bat detectors. This will be carried out at dusk.
- b) Also, as per the Bat Survey Guidelines remote monitoring at the site will be carried out. Remote bat monitoring units will be left on the site for a period of five consecutive nights in May/June, to record bat passes.
- c) Please note, depending on the results of the survey/remote monitoring (i.e. depending on which bat species are recorded and in what numbers etc.), further bat surveys/remote monitoring may be required during the bat active season, which runs from April to October, inclusive, to more fully assess potential impacts to bats.

6.5.4 Nesting Bird Check

- a) If any hedgerow, tree or shrub/dense scrub removal is carried out during the bird breeding season, a nesting bird survey must firstly be carried out by a qualified ecologist prior to works going ahead to ensure that no active nests will be affected. If active nests are found then work will have to be delayed in that area until all young have fledged.

6.5.5 Reptiles

- a) Full reptile surveys of the proposed development site will be carried out to determine the presence or likely absence of reptile species on the site. This will involve an ecologist laying artificial refuges (e.g. roofing felt and corrugated tins) on the site and then checking the refuges on seven visits during suitable weather conditions during the active

season for reptiles, i.e. April to early October, with April, May and September being the optimum months to survey (Froglife 1999). A direct search will also be carried out, whereby the surveyor will walk the site and observe areas with high potential for reptiles.

REFERENCES

Bat Conservation Trust 2023 *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4th edition). The Bat Conservation Trust, London.

Chartered Institute of Ecology and Environmental Management 2013 *Guidelines for Preliminary Ecological Appraisal*. CIEEM.

Chartered Institute of Ecology and Environmental Management September 2018 (Version 1.2 Updated April 2022) *Guidelines for Ecological Impact Assessment in the UK and Ireland*. CIEEM.

DEFRA/NPPF Guidance 2013: [http://www.darkwightskies.com/wp-content/files/DEFRA - Artificial- Light - in – the – Environment –](http://www.darkwightskies.com/wp-content/files/DEFRA-Artificial-Light-in-the-Environment-2013.pdf)

Eaton M A. et al. 2021 *Birds of Conservation Concern 5: the population status of birds in the UK, Channel Islands and Isle of Man*.

Available at: <https://www.rspb.org.uk/globalassets/downloads/bocc5/bocc5-report.pdf>

English Nature 2001 Great Crested Newt Mitigation Guidelines. ISBN 1 85716 568 3.

Froglife 1995 *Reptile Survey Techniques* in Foster J & Gent T (Eds) English Nature Science Publication No. 27, English Nature, Peterborough.

Hill, D., Fasham, M., Tucker, G., Shewry, M. and Shaw, P. 2005 *Handbook of Biodiversity Methods: Survey, Evaluation and Monitoring*. Cambridge University Press, Cambridge.

JNCC 2010 *Handbook for Phase 1 Habitat Survey: a technique for environmental audit*. JNCC, Peterborough.

Leicester, Leicestershire and Rutland BAP. Available:

<https://www.lrwat.org.uk/about-us/caring-wild-places/biodiversity-action-plan>

MAGIC Site Check Report. Available: www.magic.gov.uk.

National Planning Policy Framework (NPPF) September 2023. Department for Communities and Local Government.

Natural England 11/09 *Badgers and Development. A Guide to Best Practice and Licensing: Interim Guidance Document*.

Natural England 2009a *Guidance on 'Current Use' in the definition of a Badger Sett*. The advice note is available at: www.naturalengland.org.uk/ourwork/regulation/wildlife.

Natural England 2009b *Interpretation of 'Disturbance' in relation to badgers occupying a sett*. The advice note is available at: www.naturalengland.org.uk/ourwork/regulation/wildlife.

Nbn Gateway. Available: nbn.org.uk.

Oldham, R.S., Keeble, J., Swan, M.J.S and Jeffcote, M. 2000 Evaluating the Suitability of Habitat for Great Crested Newt (*Triturus Cristatus*). In the *Herpetological Journal* Volume 10. Number 4.

Preston, C. D., Pearman, D. A. and Dines, T. D. 2002 *New Atlas of the British and Irish Flora*. University Press, Oxford.

The British Standards Institution 2013 *Biodiversity – Code of Practice for Planning and Development BS 42020:2013*. CIEEM.

The Herpetological Trust HSI guidance note www.narrs.org.uk/Documents/nasdocuments/HSI_guidance.pdf.

The Royal Town Planning Institute November 2019 *Biodiversity in Planning: Obligations and Opportunities to promote biodiversity through the UK planning systems*.

Appendix 1: Figures

Figure 1: Location of Site and Ponds within 500m and Proposed Development Works



Figure 2: Proposed Development Phase 2 Expansion Project

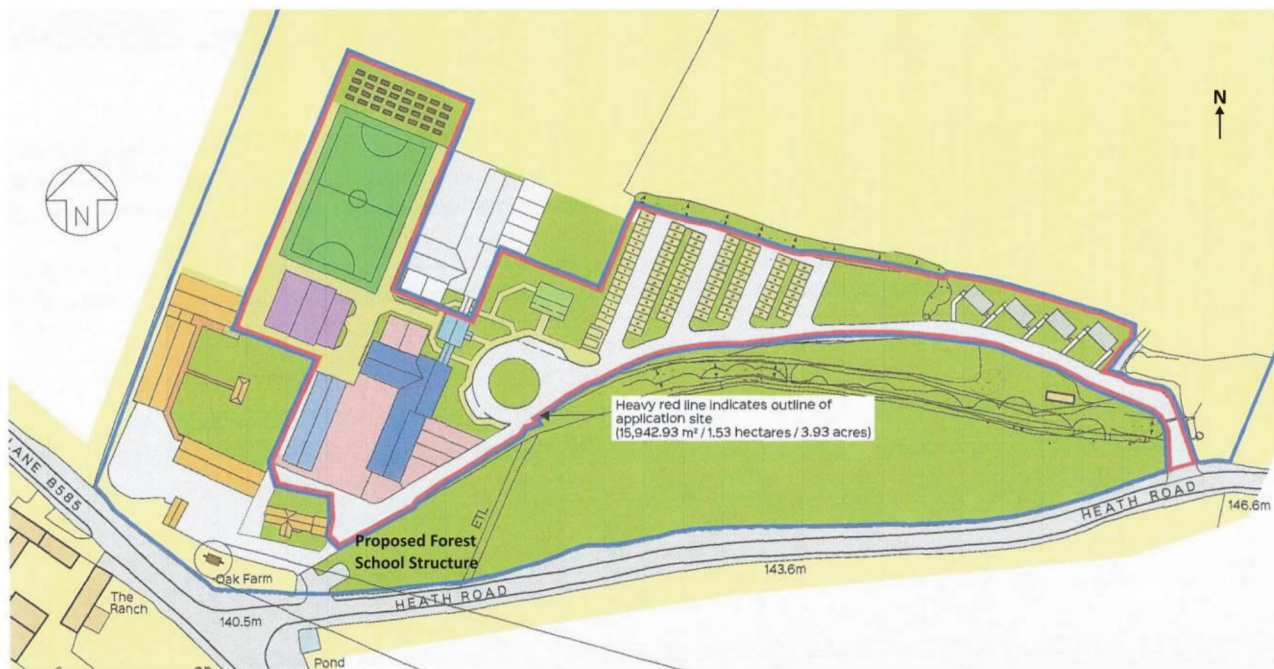


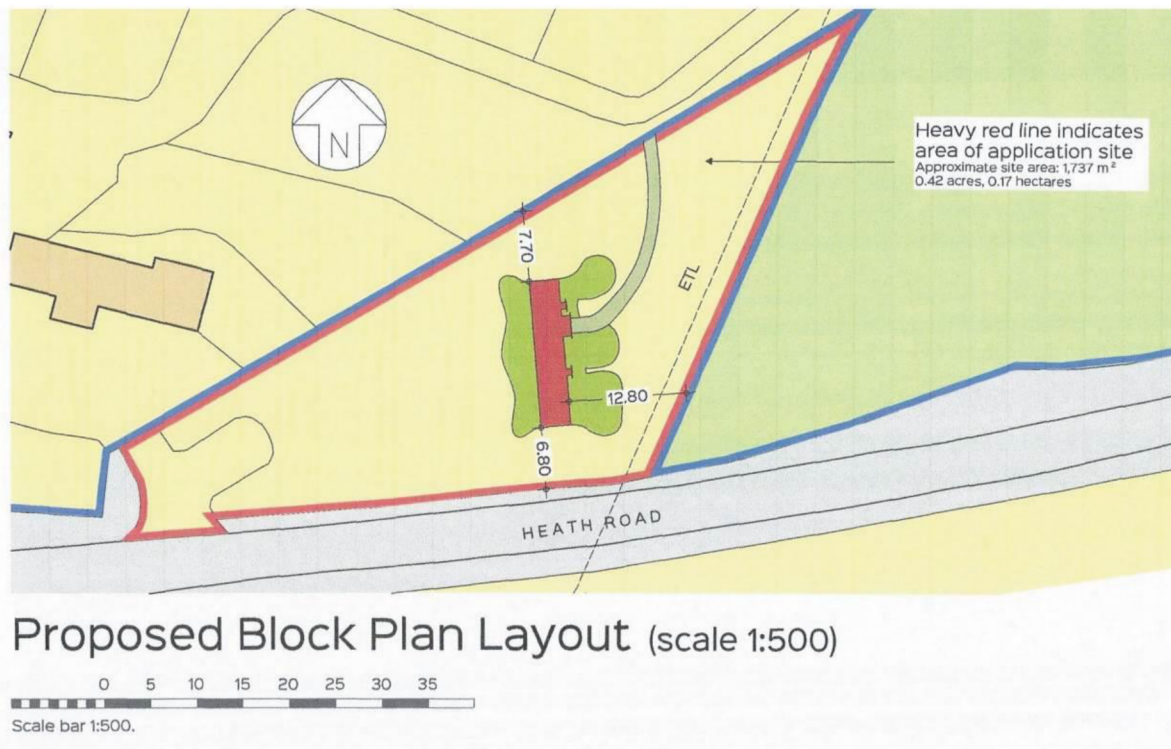
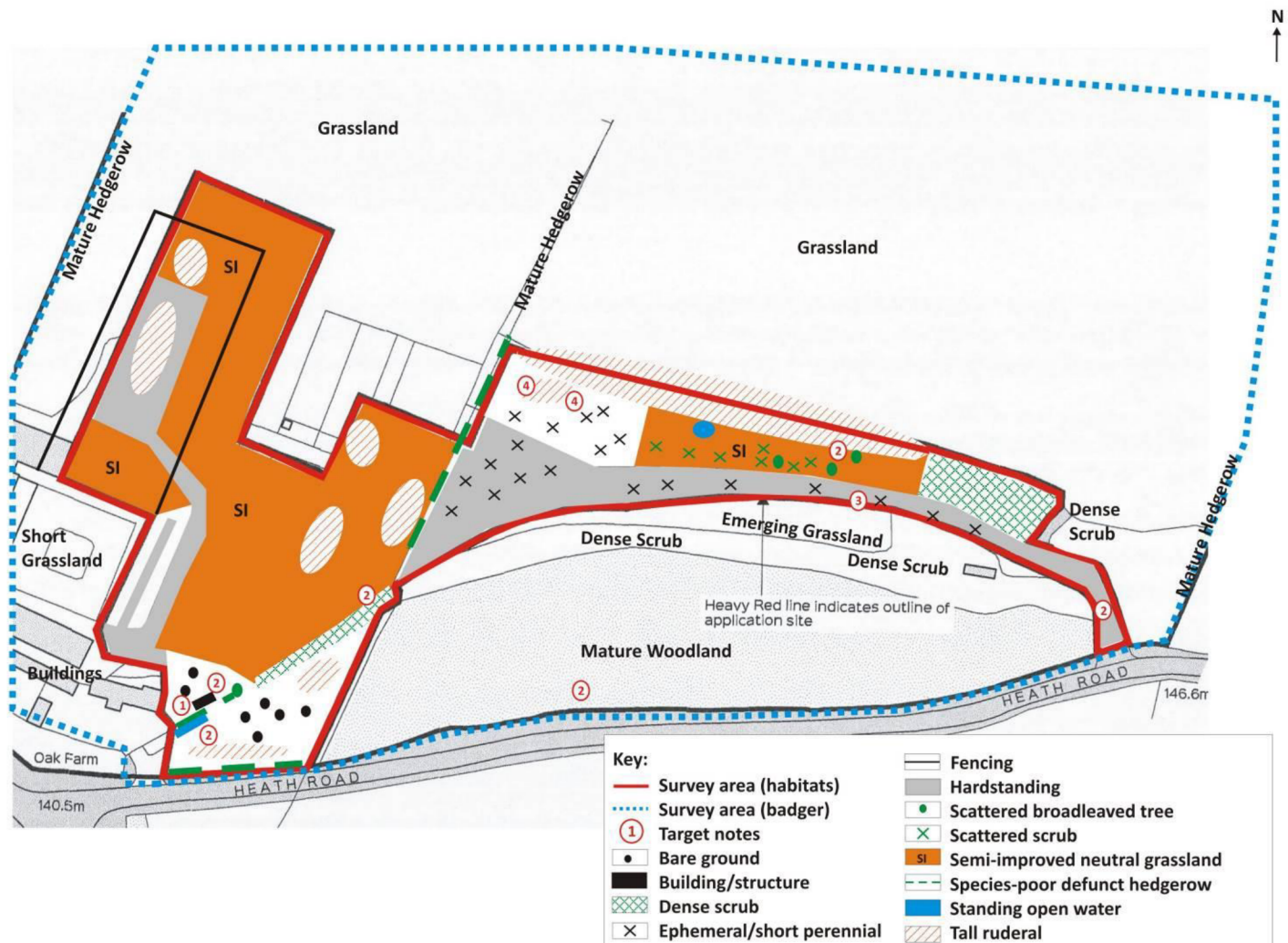
Figure 3: Proposed Forest School Structure and Footpath

Figure 4: Survey Area and Survey Results



Appendix 2: Photographs



1. Bare ground in area of proposed new forest school structure



2. Bare ground in area of proposed new forest school structure



3. Bare ground near Portakabin buildings and location of dead common toad



4. Portakabin buildings



5. Dense scrub on edge of mature woodland



6. Dense scrub and grassland on edge of mature woodland



7. Dense scrub and hardstanding on former access road and entrance to the east



8. Dense scrub near woodland



9. Dense scrub near former access entrance



10. Hardstanding and emerging vegetation



11. Former entrance gate to the east



12. Former access road and emerging vegetation



13. Former access road and emerging vegetation



14. Grassland and scattered trees/shrubs



15. Grassland emerging near former access road and scattered scrub/trees



16. Grassland on the western side



17. Grassland on western side



18. Grassland on western side



19. Tall ruderal in grassland



20. Hedgerow on site



21. Pond



22. Pond



23. Ditch



24. Ditch



25. Grassland to the north, in historical pLWS



26. Badger dung



27. Piles of discarded items



28. Pile of wood



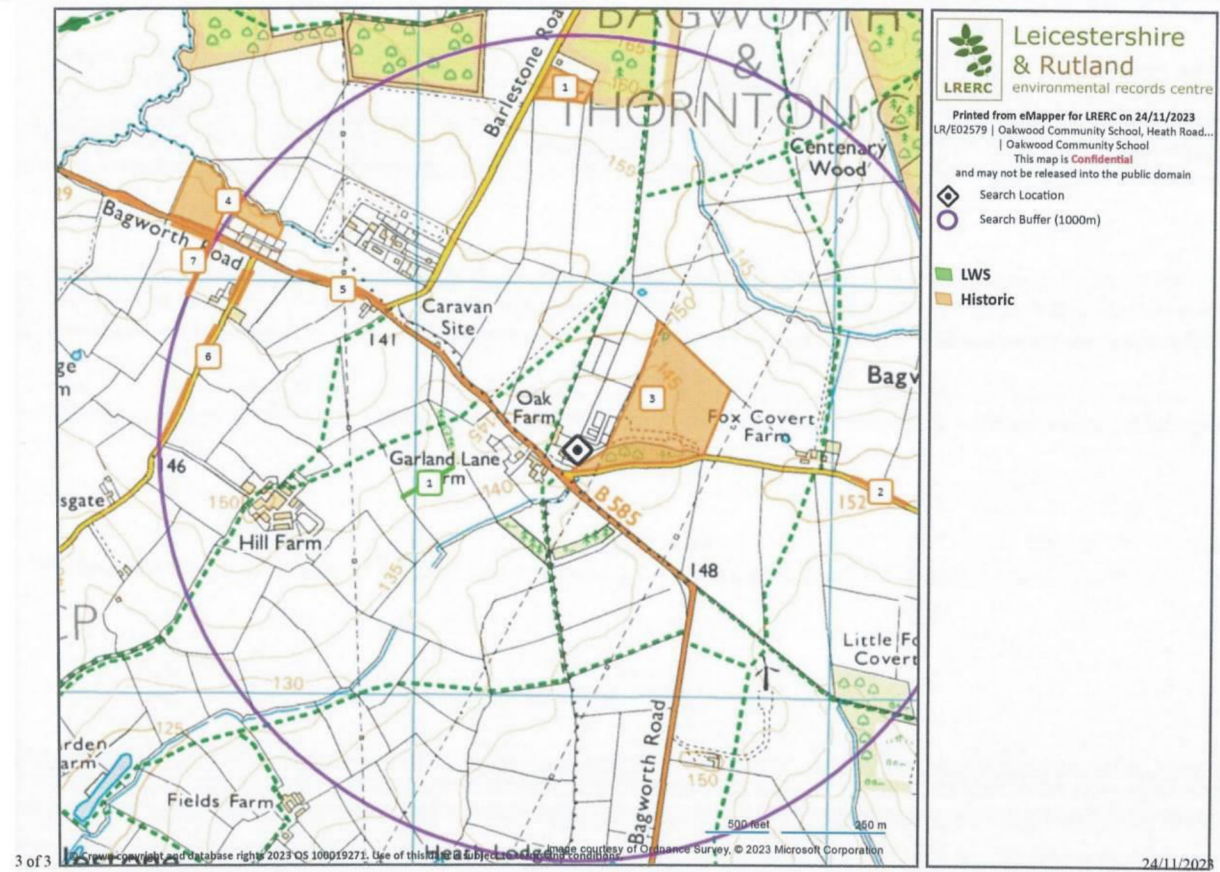
29. Pile of wood



30. Discarded items

Appendix 3: Designated Nature Conservation Sites Map

eMapper for LRERC

<https://emapper.lerc.online/?src=lr&id=7882&key=TM5R6KYzdmYl>


Appendix 4: Protected Species Legislation

Plants

All wild plants are protected against unauthorised removal or uprooting under Section 13 of the Wildlife and Countryside Act 1981 (as amended). Plants listed on Schedule 8 of the Act (e.g. triangular club rush and Deptford Pink) are afforded additional protection against picking, uprooting, destruction and sale. Bluebell is protected against sale only.

Amphibians (Common Species)

Common amphibian species (i.e. common frog, common toad, smooth newt and palmate newt) are afforded partial legal protection under UK legislation, i.e. Schedule 5, Section 9 (5) of the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000. This legislation prohibits:

- sale
- transportation
- advertising for sale

Badger

Badger is a widespread and generally common species. However, they are legally protected under The Protection of Badgers Act 1992, which is based primarily on the need to protect badgers from baiting and deliberate harm or injury. Under this legislation it is illegal to:

- Wilfully kill, injure, take, or cruelly ill-treat a badger, or attempt to do so
- Possess any dead badger or any part of, or anything derived from, a dead badger
- Intentionally or recklessly interfere with a sett by disturbing badgers whilst they are occupying a sett, damaging or destroying a sett, causing a dog to enter a sett, or obstructing access to it

A badger sett is defined in the legislation as *“any structure or place, which displays signs indicating current use by a badger”*.

Bats

All bat species are afforded full protection under UK and European legislation, including the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way Act 2000 and The Conservation of Habitats and Species Regulations 2017. Together, this legislation makes it illegal to:

- Intentionally or deliberately take, kill or injure a bat
- Damage, destroy or obstruct access to bat roosts
- Deliberately disturb bats

A bat roost is defined in the legislation as *“any structure or place which a bat uses for shelter or protection”*. Roosts are protected whether or not bats are present at the time. If a development activity is likely to result in disturbance or killing of a bat, damage to its habitat or any of the other activities listed above, then a licence will usually be required from Natural England.

Birds

The bird breeding season generally lasts from early March to September for most species. All birds are protected under the Wildlife and Countryside Act (1981) (as amended) and the Countryside & Rights of Way Act 2000. This legislation makes it illegal, both intentionally and recklessly to:

- Kill, injure or take any wild bird;
- Take, damage or destroy the nest of any wild bird while it is being built or in use;
- Take or destroy the eggs of any wild bird; and
- Possess or control any wild bird or egg unless obtained legally.

Birds listed under Schedule 1 of the Wildlife and Countryside Act (1981) (as amended) (e.g. barn owl) are afforded additional protection, which includes makes it an offence to disturb a bird while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

Great crested newt

Great crested newts and their habitat are afforded full protection under UK and European legislation, including the Wildlife and Countryside Act 1981 (as amended), the Countryside and Rights of Way Act 2000 and The Conservation of Habitats and Species Regulations 2017. This makes it is an offence to kill, injure or disturb great crested newts and to destroy any place used for rest or shelter by a newt. The great crested newt is also listed on Annexes II and IV of the EC Habitats Directive and Appendix II of the Bern Convention. If a development activity is likely to result in disturbance or killing of a great crested newt, damage to its habitat etc, then a licence will usually be required from Natural England.

Hazel dormouse

Hazel dormouse and their nests are fully protected under Schedule 5 of the WCA 1981 (as amended), the Countryside & Rights of Way Act 2000 and The Conservation of Habitats and Species Regulations 2017 (as amended). This makes it offence to intentionally or recklessly: to kill, injure or take a hazel dormouse from the wild; to damage or obstruct a place used for shelter or protection; and disturb a dormouse in such a place. It is a Priority Species under the National BAP (UK BAP 2007).

Reptiles

There are six native species of reptiles in the UK, including the slow-worm (*Anguis fragilis*), viviparous/common lizard (*Lactera vivipara*), grass snake (*Natrix natrix*) and adder (*Vipera berus*), smooth snake (*Coronella austriaca*) and sand lizard (*Lactera agilis*), which are afforded varying degrees of protection under UK and European legislation.

Slow-worm, viviparous/common lizard, adder and grass snake are protected under Schedule 5, Section 9 (1 and 5) of the Wildlife and Countryside Act 1981 (as amended) and the Countryside & Rights of Way Act 2000 against deliberate or reckless killing and injuring and sale.

Appendix 5: Native Species Suitable for Planting and Sowing

The plants should be obtained from specialist nurseries and preferably be of local genetic stock.

1. Emorsgate EM3 Wildflower Seed Mixture for Wildflower Grassland Sowing/Diversification

Wild Flowers

%	Latin name	Common name
0.5	Achillea millefolium	Yarrow
1	Betonica officinalis - (Stachys officinalis)	Betony
2	Centaurea nigra	Common Knapweed
1.3	Centaurea scabiosa	Greater Knapweed
1	Daucus carota	Wild Carrot
0.6	Filipendula ulmaria	Meadowsweet
0.6	Galium album - (Galium mollugo)	Hedge Bedstraw
2	Galium verum	Lady's Bedstraw
0.8	Knautia arvensis	Field Scabious
0.3	Leontodon hispidus	Rough Hawkbit
0.5	Leucanthemum vulgare	Oxeye Daisy
0.5	Lotus corniculatus	Birdsfoot Trefoil
0.5	Malva moschata	Musk Mallow
0.3	Plantago media	Hoary Plantain
1.5	Poterium sanguisorba - (Sanguisorba minor)	Salad Burnet
1	Primula veris	Cowslip
1	Prunella vulgaris	Selfheal
1.5	Ranunculus acris	Meadow Buttercup
1	Rhinanthus minor	Yellow Rattle
0.6	Rumex acetosa	Common Sorrel
1.2	Silene dioica	Red Campion
0.2	Silene flos-cuculi - (Lychnis flos-cuculi)	Ragged Robin
0.1	Trifolium pratense	Wild Red Clover
20		

Grasses

%	Latin name	Common name
8	Agrostis capillaris	Common Bent
40	Cynosurus cristatus	Crested Dogstail
28	Festuca rubra	Slender-creeping Red-fescue
4	Phleum bertolonii	Smaller Cat's-tail
80		

2. Emorsgate EL1 Flowering Lawn Mixture for Lawn Areas

Composition

Mixture EL1 contains slow growing grasses with a selection of wild flowers that respond well to regular short mowing.

Wild Flowers

%	Latin name	Common name
4	Galium verum	Lady's Bedstraw
0.5	Leontodon hispidus	Rough Hawkbit
1	Leucanthemum vulgare	Oxeye Daisy
3.7	Lotus corniculatus	Birdsfoot Trefoil
3	Primula veris	Cowslip
4	Prunella vulgaris	Selfheal
3.5	Ranunculus acris	Meadow Buttercup
0.3	Trifolium pratense	Wild Red Clover
20		

Grasses

%	Latin name	Common name
8	Agrostis capillaris	Common Bent
40	Cynosurus cristatus	Crested Dogstail
28	Festuca rubra	Slender-creeping Red-fescue
4	Phleum bertolonii	Smaller Cat's-tail
80		

3. Native Shrub, Tree, Climbing and Herbaceous Species for Hedgerow Planting

Shrubs	
Blackthorn	<i>Prunus spinosa</i>
Dog rose	<i>Rosa canina</i>
Dog wood	<i>Cornus sanguine</i>
Elder	<i>Sambucus nigra</i>
Field maple	<i>Acer campestre</i>
Guelder rose	<i>Viburnum opulus</i>
Hawthorn	<i>Crataegus monogyna</i>
Hazel	<i>Corylus avellana</i>
Holly	<i>Ilex aquifolium</i>
Trees	
Bird cherry	<i>Prunus padus</i>
Crab apple	<i>Malus sylvestris</i>
Field maple	<i>Acer campestre</i>
Rowan	<i>Sorbus aucuparia</i>
Silver birch	<i>Betula pendula</i>
Wild cherry	<i>Prunus avium</i>
Climbers	
Field rose	<i>Rosa arvensis</i>
Honeysuckle	<i>Lonicera periclymenum</i>
Traveller's-joy	<i>Clematis vitalba</i>
Herbs	
Cow-parsley	<i>Anthriscus sylvestris</i>
Garlic mustard	<i>Alliaria petiolata</i>
Lesser celandine	<i>Ranunculus ficaria</i>
Primrose	<i>Primula veris</i>
Red campion	<i>Silene dioica</i>
Snowdrop	<i>Galanthus nivalis</i>
Wood anemone	<i>Anemone nemorosa</i>

4. Emorsgate EH1 Ground Flora Seed Mixture for Hedgerow Planting

Wild Flowers

% Latin name	Common name
0.5 Achillea millefolium	Yarrow
1.2 Agrimonia eupatoria	Agrimony
2.5 Alliaria petiolata	Garlic Mustard
1 Betonica officinalis - (Stachys officinalis)	Betony
2 Centaurea nigra	Common Knapweed
0.4 Clinopodium vulgare	Wild Basil
0.6 Digitalis purpurea	Foxglove
1 Galium album - (Galium mollugo)	Hedge Bedstraw
1.5 Geum urbanum	Wood Avens
1 Hypericum perforatum	Perforate St John's Wort
0.5 Leucanthemum vulgare	Oxeye Daisy
1 Plantago lanceolata	Ribwort Plantain
1 Primula veris	Cowslip
1 Prunella vulgaris	Selfheal
2 Silene dioica	Red Campion
2 Torilis japonica	Upright Hedge-parsley
0.4 Vicia cracca	Tufted Vetch
0.4 Vicia sativa ssp. segetalis	Common Vetch
20	

Grasses

% Latin name	Common name
10 Agrostis capillaris	Common Bent (w)
2 Anthoxanthum odoratum	Sweet Vernal-grass (w)
7 Brachypodium sylvaticum	False Brome (w)
28 Cynosurus cristatus	Crested Dogstail
1 Deschampsia cespitosa	Tufted Hair-grass (w)
20 Festuca rubra	Slender-creeping Red-fescue
12 Poa nemoralis	Wood Meadow-grass
80	

5. Native Shrub, Tree, Climbing and Herbaceous Species for Landscaping Planting

Shrubs	
Bell heather	<i>Erica cinerea</i>
Box	<i>Buxus sempervirens</i>
Broom	<i>Cytisus scoparius</i>
Guelder rose	<i>Viburnum opulus</i>
Hawthorn	<i>Crataegus monogyna</i>
Hazel	<i>Corylus avellana</i>
Heather	<i>Calluna vulgaris</i>
Holly	<i>Ilex aquifolium</i>
Lavender *	<i>Lavendula angustifolium</i>
Rosemary *	<i>Rosemarinus officinalis</i>
Trees	
Bird cherry	<i>Prunus padus</i>
Crab apple	<i>Malus sylvestris</i>
Field maple	<i>Acer campestre</i>
Rowan	<i>Sorbus aucuparia</i>
Silver birch	<i>Betula pendula</i>
Wild cherry	<i>Prunus avium</i>
Climbers	
Field rose	<i>Rosa arvensis</i>
Honeysuckle	<i>Lonicera periclymenum</i>
Traveller's-joy	<i>Clematis vitalba</i>
Herbs	
Cow-parsley	<i>Anthriscus sylvestris</i>
Garlic mustard	<i>Alliaria petiolata</i>
Lesser celandine	<i>Ranunculus ficaria</i>
Primrose	<i>Primula veris</i>
Red campion	<i>Silene dioica</i>
Snowdrop	<i>Galanthus nivalis</i>
Wood anemone	<i>Anemone nemorosa</i>

* Non-native plant species

6. Native Marginal and Aquatic Plant Species for New Wildlife Ponds

Grasses, Sedges and Rushes	
False fox-sedge	<i>Carex otrubae</i>
Hard rush	<i>Juncus inflexus</i>
Reed sweet-grass	<i>Glyceria maxima</i>
Soft rush	<i>Juncus effuses</i>
Herbs	
Broadleaved pondweed	<i>Potamogeton natans</i>
Brooklime	<i>Veronica beccabunga</i>
Fool's water-cress	<i>Apium nodiflorum</i>
Gipsywort	<i>Lycopus europaeus</i>
Hemp agrimony	<i>Eupatorium cannabinum</i>
Meadowsweet	<i>Filipendula ulmaria</i>
Purple loosestrife	<i>Lythrum salicaria</i>
Ragged robin	<i>Lychnis flos-cuculi</i>
Water avens	<i>Geum rivale</i>
Water forget-me-not	<i>Myosotis scorpioides</i>
Water mint	<i>Mentha aquatic</i>
Water plantain	<i>Alisma plantago-aquatica</i>
Water starwort	<i>Callitriche stagnalis</i>
Water-cress	<i>Rorippa nasturtium-aquaticum</i>
Yellow flag iris	<i>Iris pseudacorus</i>

Appendix 6: Faunal Species Boxes Specifications

Images from Wildcare website: www.wildcareshop.com, apart from the Ibstock Enclosed bat box taken from Ibstock website: www.ibstock.com/sustainability-ecozone.asp

1. Bat Box to be Installed on the New Buildings on the Site



Ibstock Enclosed Bat Box C

2. Bird Nesting Boxes Suitable for the New Buildings on the Site



Schwegler 1SP Sparrow Terrace



Schwegler 11 House Martin Nest



Schwegler 1B Bird Box (32mm hole)



Schwegler 1B Bird Box (26mm hole)



Schwegler 2H Open Fronted Bird Box

3. Hedgehog Box to be Installed in the Bases of Retained Hedgerows



Original Wooden Hedgehog Box