



PROPOSED DEVELOPMENT:

LAND AT CARN GWILYM GOCH, MERTHYR TYDFIL

ECOLOGICAL ASSESSMENT

MAY 2021

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BE Ecological Ltd
2, Park View House,
Heolgerrig,
Merthyr Tydfil,
info@beecological.co.uk
www.beecological.co.uk

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Ecological Assessment

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NON-TECHNICAL SUMMARY

An ecological assessment was undertaken of land at Carn Gwilym Goch, Merthyr Tydfil, South Wales in support of a planning application to erect a residential dwelling.

The work involved a phase 1 habitat survey to categorise the habitats present, an assessment of the site's ability to provide suitable habitats for protected species and recommendations for further survey and actions if considered necessary.

The habitats on and adjacent to the site comprise of scrub and a hedgerow.

None of the trees to be removed have potential roosting features due to their size, age and species.

It is always possible that some of the scrub present on the site could be used by dormice, however, the site is isolated, there are no records within 2km, food sources are not abundant at the site. As such, providing that this habitat is cleared in accordance with a method statement and ecological supervision, there will be no requirement for further survey effort. If at any point dormice or evidence of dormice are found, all works will cease and a licence from Natural Resources Wales must be applied for prior to works recommencing.

There were no waterbodies on or immediately adjacent to the site which could be suitable for use by breeding great crested newts (or other amphibians). There are records within the data search, however, these records are isolated by roads and infrastructure.

No evidence of badger activity was recorded within or immediately adjacent to the site boundary. It is possible that badgers will use the site for foraging, however, no evidence of badger was found throughout. It is unlikely that badgers will use the site for sett building to the high levels of disturbance present at the site.

It should be assumed that all areas of scrub and trees will be utilised by nesting birds during the breeding season. There is no habitat suitable for ground nesting species.

The site provides reptiles with potential habitat for foraging, basking, sheltering and hibernation purposes.. It is likely that reptiles will be present. The presence of low numbers should be assumed.

All site clearance works should be undertaken in accordance with a method statement and ecological supervision to ensure that species are not harmed at any stage of the project.

Mitigation will be required and is outlined within the various habitat and species sections contained herein.

This report will need to be updated once the final development layout has been agreed.

1 INTRODUCTION

1.1 OBJECTIVE

The objectives of this report are to:

- identify the habitats present on the site;
- identify the potential for protected species to be present on site;
- using the information gathered to determine whether there may be any impacts (both positive and negative) on protected species present;
- provide recommendations for further survey as necessary; and
- suggest outline mitigation and enhancement ideas and principles

1.2 METHODOLOGY

To achieve the objectives set out above, the following actions were taken:

- Field based assessments in respect of
 1. Habitats;
 2. Protected species, primarily:
 - i. Bats;
 - ii. Dormice;
 - iii. Otters;
 - iv. Amphibians (particularly great crested newt);
 - v. Badgers
 - vi. Reptiles; and
 - vii. Breeding birds

The impact assessment has been undertaken by ecological feature rather than by section i.e. each subject is discussed and assessed separately and summarised in conjunction with the others.

1.3 SITE DESCRIPTION

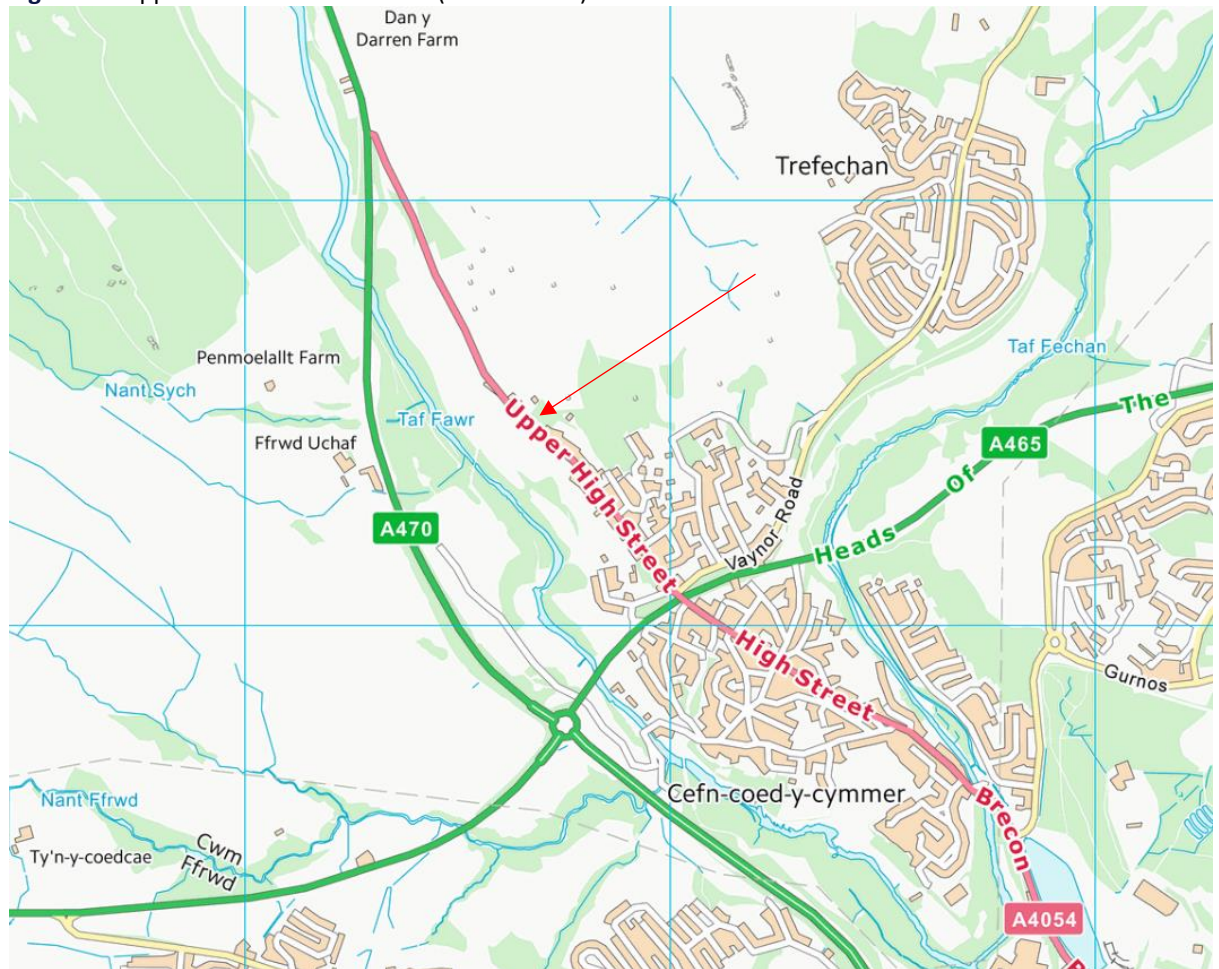
The red line development site boundary is located to the west of Cefn Y Coed, Merthyr Tydfil in South Wales (centred on NGR SO02690850) (Figure 1). The site is located to the north east of the A4054.

The site appears to have been cleared within the last decade or two. As a result, scrub has begun to take over the site. Originally the site comprised of improved grassland. There are remnants of this throughout the scrub habitat in small areas. Due to a lack of management of the habitats on site, immature trees have begun to grow.

There is a hawthorn hedgerow on the sites south western boundary between the site and the neighbouring property. The north eastern boundary of the site comprises of a stone wall, likely an old field boundary.

The habitat beyond the site boundary to the north and north east comprises of ffridd. The A4054 runs parallel with the sites south western boundary. The habitat against the south eastern boundary is largely the same as that of the site. There is good connectivity to the wider landscape.

Figure 1 – Approximate location of site (arrowed red)



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1.4 PROPOSED DEVELOPMENT



1.5 STUDY AREA

The field survey looked at the red line development area itself and up to 20m from the site boundaries wherever possible.

The biological records search covered a search radius of 2000m from the centre of the development site for protected sites (international, national and local), protected and priority species, other species of conservation concern and locally important species. A buffer of 2000m was applied to locally designated sites.

2 REGULATORY FRAMEWORK

2.1 INTERNATIONAL

European Union legislation requires that member states designate sites for the protection of habitats and species included in the annexes of both Council Directive 92/43/EC on the Conservation of Natural Habitats and of Wild Flora and Fauna (the Habitats Directive) and Council Directive 79/409/EEC on the Conservation of Wild Birds (the Birds Directive). This legislation is implemented in the UK by the Conservation of Habitats and Species Regulations 2017 (as amended) (“the Habitat Regulations”). This results in sites being designated as Special Areas of Conservation (SACs) and Special Protection Areas respectively (SPAs).

2.2 NATIONAL (UK)

The Wildlife and Countryside Act 1981 (as amended) allows sites to be designated as Sites of Special Scientific Interest (SSSI) for one or all of the following categories:

- Flora;
- Fauna;
- Habitat; and
- Geological importance.

European designated sites are automatically designated as SSSIs prior to their designation.

Other relevant legislation includes:

- The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (as amended);
- The Wildlife and Countryside Act 1981 (as amended);
- Countryside and Rights of Way Act 2000;
- Environment (Wales) Act 2016
- Wild Mammals (Protection) Act 1996;
- The Protection of Badgers Act 1992; and
- The Hedgerow Regulations 1997.

Section 40 of the Natural Environment and Rural Communities Act 2006 (as amended) requires all public bodies to have regard wherever possible to conserving biodiversity. Section 42 of the Act requires that a list of habitats and species of Principle Importance for the Conservation of Biological Diversity in Wales be produced; however, this has been replaced by Section 7 of the Environment (Wales) Act 2016 Priority Habitats and Species lists.

The Environment (Wales) Act 2016 requires that all public authorities, when carrying out their functions in Wales, seek to “maintain and enhance biodiversity” where it is within the proper exercise of their functions. In doing so, public authorities must also seek to “promote the resilience of ecosystems”.

This ensures that biodiversity is an integral part of the decisions that public authorities take in relation to Wales. It also links biodiversity with the long-term health and functioning of our ecosystems, therefore helping to align the biodiversity duty with the framework for sustainable natural resource management provided in the Act.

In Wales, this legislation replaces and enhances the Natural Environment and Rural Communities Act (2006) which sought to raise the profile of biodiversity and to make sure that it is considered in all local authority decisions by ensuring that “Every public authority must, in exercising its functions, have

regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.”.

Other elements of NERC 2006 may still apply.

Biodiversity Action Plans (BAPs) are tools which are used to monitor, manage and enhance those habitats and species which are of significance to an area or organisation, The United Kingdom BAP lists a number of priority habitats and species which are of conservation concern.

2.3 NATIONAL (WALES)

Planning Policy Wales (Welsh Government, 2016) and Planning Policy Wales Technical Advice Note 5: Nature Conservation and Planning (Welsh Assembly Government, September 2009) set out the protection given to wildlife (sites, habitats and species) by the planning system operational in Wales.

2.4 LOCAL AND REGIONAL

The proposed development is wholly within the Merthyr Tydfil County Borough Council (MTCBC) area of responsibility. Therefore, all policies adopted by that Planning Authority will apply, including policies which may not be specific to nature conservation or the natural environment but that may apply or be relevant and should be considered during the planning process.

There are a number of habitats and species which are of a high priority to MTCBC. These have been determined following examination of the UK BAP and the Environment (Wales) Act Section 7 list of Priority Species and Habitats and those habitats and species determined to be locally important by the Local Biodiversity Partnership.

2.5 PLANNING FRAMEWORK

The proposed development will be undertaken wholly under the auspices of the Town and Country Planning Act 1990 (as amended).

2.6 PREVIOUS SURVEYS

There are no known previous surveys of this site.

2.7 CONSTRAINTS

There were no constraints to the survey.

3 DESK STUDY

3.1 SUMMARY

There are no records of any priority or protected species, species of local conservation concern or other species of conservation concern from the site or immediately adjacent to it. The closest records are from 76m away.

Three SSSI's were identified within the data search.

14 non statutorily designated sites, e.g. Sites of Importance for Nature Conservation were identified within the data search.

Cilsanws Common South SINC, is adjacent to the sites north east boundary.

3.2 BACKGROUND

A desk study provides background information on historical and current biological data which can identify ecological constraints, mitigation, and biodiversity enhancement opportunities.

3.3 METHODOLOGY

The South East Wales Biodiversity Records Centre (SEWBReC) was consulted in order to provide biological information on the presence of species and sites on or adjacent to the site (0212-626).

A 2000m search buffer was applied to priority and protected species, species of local conservation concern and other species of conservation concern, statutorily designated sites (for nature conservation purposes) and 1000m locally designated sites.

The Multi-Agency Geographical Information System (MAGIC) website (www.magic.gov.uk) and the Local Biodiversity Action Plan (LBAP) for MTCBC were also consulted.

3.4 CONSTRAINTS

There were no constraints to the data search

3.5 RESULTS

3.5.1 Statutorily protected sites

3.5.1.1 European designated sites

There are no European Designated Sites within 2000m of the development site.

3.5.1.2 United Kingdom designated sites

There are three United Kingdom Designated Sites within 2000m of the development site.

Table 3 - non-statutorily designated sites within 1km of the proposed development site:

Site	Designation	Grid reference	Distance from site
Darren Fach	SSSI	SO065115	716m
Cwm Taf Fechan Woodlands	SSSI	SO 05210	1687m
Penmoellallt	SSSI	SO 05210	992m

There are no ecological links between the development site and Cwm Taff Fechan Woodland and Penmoellallt. There are no features present on the development site that the SSSIs are designated for. The sites are isolated by roads and other infrastructure. As a result it is unlikely that the sites will be affected and they will therefore not be considered further in this report.

It is possible that the site is connected ecologically (passage of species) to Daren Fach. Daren Fach SSSI consists of open scrub on limestone cliffs and screes, with woodland on the gentler slopes. The primary interest lies in a concentration of the rare Ley's whitebeam on the southern end of the Daren Fach crags. Whilst there is scrub on the site, this is early regeneration scrub following clearance. There is no Ley's whitebeam on the site. Given the above it is considered unlikely that the SSSI will be affected by the proposed development.

3.5.2 Non-statutory designations

The following SINCs are found within 2000m of the site

Dan y Darren Wildlife Site (346m)

Cwm Ffrwd (861m)

Cwm Taf Fechan (620m)

Cwm Taf Fawr (149m)

Y Graig (805m)

Cyfarthfa Park (1469m)

Gyrnos Wood (1753m)

Bryn-du & Ty'n-y-coedcae (1651m)

Coed Meirig Pastures (1192m)

Winchfawr West (1552m)

Gellideg North Fields (986m)

Winchfawr East & Clwydyfagwyr (1710m)

Cwm Taf Fields & Cefn Coed Tip (880m)

Cilsanws Common South (12m)

There is probably connectivity in some shape or form to two of the above SINC's to the site. However, it is considered that the protection of the Cilsanws Common South SINC that is adjacent to the site's north eastern boundary will protect the sites connected to this SINC. As such, this report will not further mention any other SINC's excluding the Cilsanws Common South SINC.

3.5.3 Species: SEWBreC data search

There are no species records for the proposed development site or its immediate vicinity.

The closest records are of brown long eared, pipistrelle and myotis sp. bat roosts 79m from the site.

3.6 PREVIOUS SURVEYS

None known.

4 DESIGNATED SITES

4.1 NON-STATUTORY SITES – EVALUATION & IMPACT ASSESSMENT

As described previously, the Cilsanws Common South is directly adjacent to the sites north eastern boundary. Protection of this site will also protect other SINC's within the vicinity.

4.1.1 Cilsanws Common South

4.1.1.1 Cilsanws Common South – evaluation

Qualifying features

Semi-upland site comprising a complex mosaic of mainly acidic habitats associated with disused quarries and spoil tips. Main habitats are acid grasslands with bracken slopes intermixed with numerous areas of acid flush and marshy grassland. Also present are areas of semi-natural woodland, including wet woodland areas, neutral grassland, ponds and streams, a small reedbed and some small areas of species-rich calcareous grassland on a limestone tip.

4.1.1.2 Cilsanws Common South - impact characterisation

It is anticipated that there will be no direct adverse impacts on Cilsanws Common South. The SINC will be retained in its entirety. There is no SINC within the red line boundary, The site does not support species indicative of acid grasslands. The grassland on the site is not true grassland, the species present comprise of early succession scrub with elements of improved grassland. There is some scrub and bracken on the slopes on the site, however, this is relatively new with the site being cleared previously and its removal is unlikely to affect the integrity of the SINC.

It is anticipated that there could be some indirect impacts as a result of lighting, however, lighting can be mitigated for.

4.1.1.3 Cilsanws common south- assessment without mitigation

There is a small potential for indirect impacts if lighting is not appropriately mitigated. Species that use the SINC may be adversely affected if they are not appropriately mitigated for.

4.1.1.4 Cilsanws Common South - mitigation measures

- The sites north eastern boundary will be fenced off prior to the development commencing
- All site boundaries will remain unlit at all times. Site lighting must face downwards and be set on timers
- There will be no tipping of builders waste or garden waste to the north of the site at any time
- The species and habitat mitigation outlined in the various sections of this report will be carried out in full

4.1.1.5 Cilsanws Common South - significance of the impact

Without mitigation:

It is anticipated that the significance of the impacts due to the development will be **moderate**.

4.1.1.6 Cilsanws Common South - significance of the impact

With mitigation:

It is anticipated that the significance of the impacts due to the development will be **negligible**.

5 PHASE 1 HABITAT SURVEY

5.1 SUMMARY

A number of habitats were recorded across and adjacent to the survey area. These included:

- Scrub;
- Hedgerow;
- Wall

The potential for a number of protected species was recorded, including habitats suitable for:

- Bats;
- Badgers;
- Dormice
- Breeding birds;
- Reptiles
- Invertebrates

The habitats are shown on **Figure 3** below.

5.2 BACKGROUND

The Phase 1 habitat survey was carried out to assess the existing habitats, identify any protected habitats or species that may be present, determine the impact of the proposed works on them, and identify any mitigation measures that may be necessary. This was done by undertaking both a desk study and field survey.

The survey was undertaken in August 2020 and again in October 2020.

Phase 1 habitat survey is a way of recording the basic habitat data to form a baseline level of knowledge of the ecology of a site and provide recommendations for future surveys if considered necessary.

5.3 METHODOLOGY

5.3.1 Desk study:

A biological data search was undertaken. Refer to section 3 above.

5.3.2 Field survey:

Experienced surveyors from BE Ecological Ltd carried out a habitat assessment and mapping exercise in October 2021 using the Phase 1 habitat survey technique. Nomenclature follows Stace (1997)¹. The survey was carried out by Beth Evans.

Features of note are assigned Target Notes (TN) and referenced accordingly and described at **Appendix C**.

¹ Stace, C (1997). *New Flora of the British Isles* (2nd Ed.). Cambridge University Press

A full species list is at **Appendix D**.

5.4 CONSTRAINTS

There were no constraints.

5.5 RESULTS

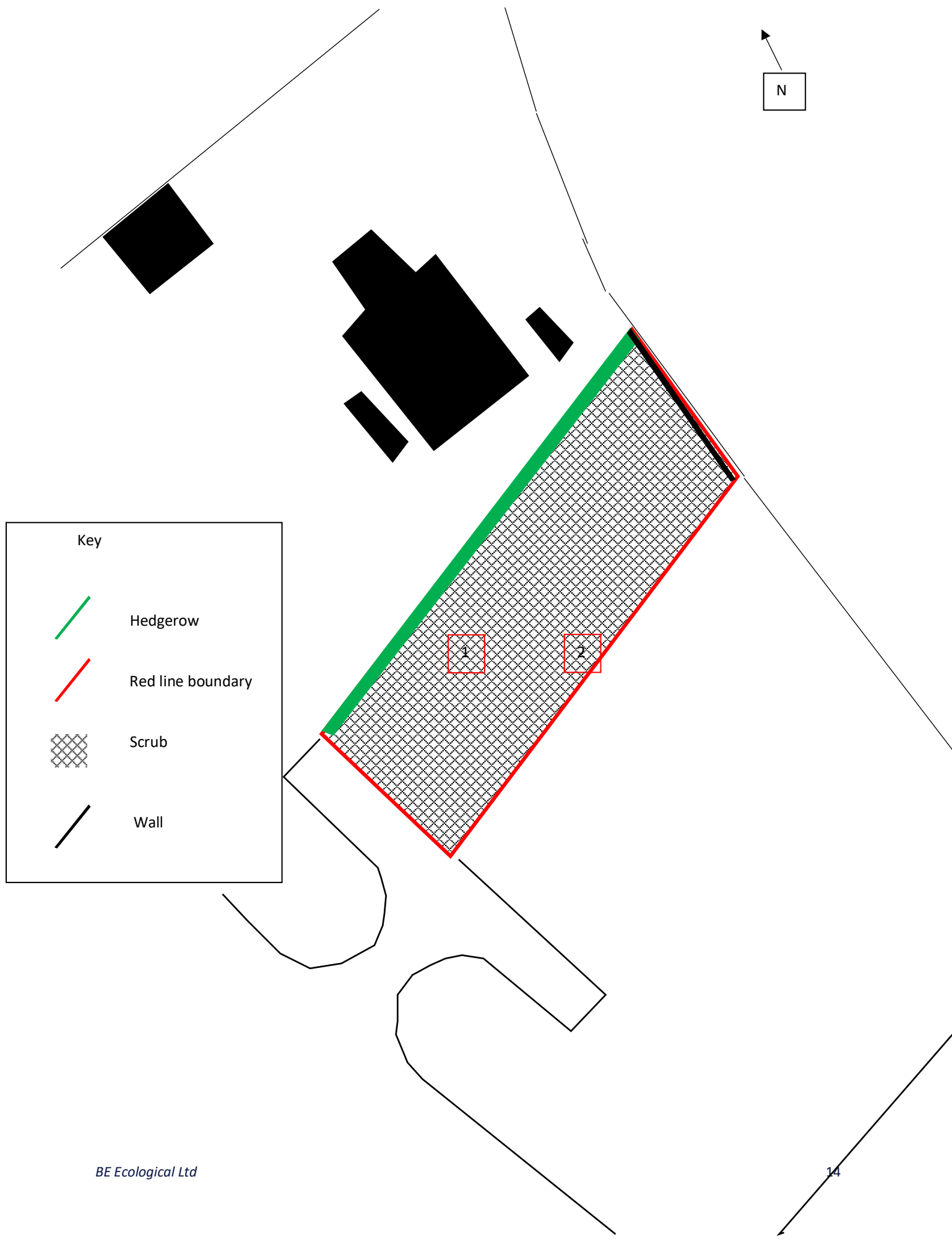
5.5.1 Habitats

The following habitats were found on the site and are mapped on **Figure 3** below:

- Scrub;
- Hedgerow;
- Wall

Photos are located at **Appendix A**.

Figure 3 – habitat survey results



5.5.1.1 Scrub

The scrub is found across the majority of the site. This habitat is mixed in and above remnants of the previous habitat type (improved grassland) and bracken. This habitat type will be considered further in this report.

5.5.1.2 Hedgerow

This habitat is found on the north western boundary of the site. The hedgerow comprises of hawthorn and forms the boundary between the site and the neighbouring property. This habitat will be left in situ and as such, will not be considered further in this report other than in relation to indirect impacts.

5.5.1.3 Wall

This habitat forms the northern boundary of the site. The wall is a typical drystone wall that would once have formed a field boundary between the site and the common. The wall is low, exposed and crumbling. This habitat is of no ecological value other than in relation to reptiles. As such, this habitat will not be considered further in this report other than in relation to protected species.

5.5.2 Protected species assessment

5.5.2.1 Bats

The closest record for members for this group is from approximately 78m from the centre of the proposed development site. It refers to roosting myotis sp, brown long-eared and pipistrelle bats.

There are no buildings or trees present on the site that could offer bats with any roosting potential. All trees within the scrub are young and immature and do not offer bats with any obvious roosting potential.

It is likely that bats will use the site for foraging.

This group will be considered further in this report.

5.5.2.2 Amphibians & great crested newt

There are no waterbodies on the development site which could be used by this group for breeding purposes. The terrestrial habitat on the site could provide amphibians with suitable foraging and sheltering habitat. There are records of great crested newt from approximately 1023m away, however, the records are isolated from the site by roads, housing and associated infrastructure.

It is considered that amphibians are unlikely to pose an ecological constraint to the development and that only common species (frog and toad with the possibility of smooth and / or palmate newts) are likely to be present on the site. Therefore, it is considered that this group can be safely dealt with via a reasonable avoidance method statement to prevent harm to individuals during site clearance. A method statement is attached within the Appendix.

This group will not be considered further in this report.

5.5.2.3 Dormouse

It is always possible that some of the scrub present on the site could be used by dormice, however, the site is isolated, there are no records within 2km, food sources are not abundant and the site is subject to large levels of disturbance. As such, due to the limited removal of suitable habitat (scrub), providing that this habitat is cleared in accordance with a method statement and ecological supervision, there will be no requirement for further survey effort. If at any point dormice or evidence of dormice are found, all works will cease and a licence from Natural Resources Wales must be applied for prior to works recommencing.

This species will not be considered further in this report.

5.5.2.4 Badgers

The closest record of badger is 347m from the site.

Even though no evidence of this species was recorded from the site or immediately adjacent land despite the suitable sett excavation and foraging habitat present, this species will be considered further in this report.

5.5.2.5 Breeding birds

There are multiple records for members of this group within the data search but none from the site.

Birds heard and seen on and adjacent to the site include sparrow, dunnock, chaffinch and buzzard.

There is suitable habitat within the scrub and hedgerow on the site.

The habitats on the site are not considered to be suitable for ground nesting birds given the small overlooked nature of the site, the small area of open ground, the high levels of disturbance on the site, the availability of avian predator perches and the presence of predators.

Scrub and tree nesting species will be considered further in this report.

5.5.2.6 Reptiles

There are records of slow worm, adder and common lizard greater within 800m of the site

The site offers some habitat for this species for foraging, basking, sheltering and hibernation purposes and it should be assumed that slow worm (*Anguis fragilis*), common lizard (*Lacerta vivipara*) and grass snake (*Natrix natrix*) use the site. It is likely that the population densities of these species are at perhaps lower levels given the amount of shading on the site.

This group will be considered further in this report.

5.5.2.7 Invertebrates

It is likely that common and widespread invertebrates will utilise the site. There are records of section 7 species such as broom moth within 500m of the site. There are records of marsh fritillary from within 195m. The records are largely isolated by roads. The habitats on site are considered to be unsuitable for these species due to the fact it is completely surrounded (enclosed) by scrub. There is a lack of variety of food plants for this species found on the site.

5.5.3 Other features

None.

5.6 HABITATS - EVALUATION, IMPACT CHARACTERISATION AND ASSESSMENT

The following habitats were recorded on the site:

- Scrub;
- Hedgerow;
- Wall

5.6.1 Scrub

5.6.1.1 Scrub - evaluation

Scrub is a widespread habitat in the area and the species found are common and representative of the habitat. Denser areas can provide a valuable source of food and shelter to a wide range of invertebrates, birds, reptiles and mammals.

The scrub on the site is generally sparse and low, dominated by young willow, bramble and bracken. The scrub onsite is mixed with species remnant of the previous land use (improved grassland). Due to a lack of management, immature trees are starting to establish throughout the scrub.

It is considered that the scrub habitats on the site are of a **low local (site)** importance due to the young age and species present.

5.6.1.2 Scrub - impact characterisation

It is anticipated that the areas of scrub within the red line development boundary will be lost to the development.

5.6.1.3 Scrub - impact assessment without mitigation

It is considered that, in the absence of mitigation, there would be a **certain moderate** adverse impact at a **local (site) level** on this habitat as a result of the development.

5.6.1.4 Scrub - mitigation measures

Mitigation is required although the scrub on the site is a quick growing common "nuisance" habitat. Measures will include:

- Scrub should either be allowed to re-grow wherever possible; OR
- Where natural regeneration is not possible, scrub should be replanted as part of a post development landscaping scheme;
- Planting should use native species of as local a provenance as possible to replace those species lost or utilise species that will be able to provide a dense vegetated habitat;

5.6.1.5 Scrub - impact assessment with mitigation

It is considered that there will be a **minor short term** adverse impact at a **local (site) level** on this habitat as a result of the development.

5.6.1.6 Scrub – significance of the impact

Without mitigation:

It is anticipated that the significance of the impacts due to the development will be **slight**.

With mitigation:

It is anticipated that the significance of the impacts due to the development will be **neutral**.

6 PROTECTED SPECIES

6.1 BATS

6.1.1 Summary

There is no roosting potential for bats present on the site.

It is likely that a small number of bats species will forage over the site and boundaries.

6.1.2 Ecology

British bats are small flying nocturnal mammals that feed exclusively upon insects. There are 17 species resident in Britain, ranging in size from the smallest, soprano pipistrelle (*Pipistrellus pygmaeus*) up to the largest noctule (*Nyctalus noctula*), serotine (*Eptesicus serotinus*) and greater horseshoe bat (*Rhinolophus ferrumequinum*). Bats are active from April through to October and hibernate when insects are in short supply in the winter months. Bats emerge from hibernation in late March - early April and move into their transition / intermediary roosts. Female bats will move to maternity sites by the beginning of May and will give birth to a single baby between June and early July. The baby is reared solely by the mother and is weaned and independent by end of August. After breeding, bats move to transition / intermediary roosts and females will visit males at mating roosts. During the autumn, bats feed voraciously to gain weight for the hibernation ahead.

Although traditionally trees, caves and rock faces were used by roosting bats and are still used, many different structures are used nowadays by bats, which take advantage of readymade (man made) roosts. Structures used frequently include bridges, ice-houses, pill-boxes, disused railway tunnels, houses and barns etc. Bats have home ranges which vary from species to species; from just 3-4km from the roost for the smaller bats while the larger noctule may fly 20km or more. Threats to bats include habitat destruction and the severance of commuting routes, use of agricultural pesticides, intensification of farming methods and deliberate persecution by man. Bats have few natural predators; however, the domestic cat is probably the most efficient predator.

6.1.3 Legislation

6.1.3.1 Conservation of Habitats & Species Regulations 2017 (as amended)

The Conservation of Habitats and Species Regulations (2017) provides safeguards for European Protected Species (those listed under Annex IV Habitats Directive). With regards to bats, this makes it an offence to:

- Deliberately (or recklessly in Scotland) capture, injure or kill a bat
- Deliberately (or recklessly in Scotland) disturb a bat in a way that would (significantly in Scotland) affect its ability to survive, breed or rear young (or hibernate or migrate in England, Wales and Northern Ireland) or (significantly in England, Wales and Scotland) affect the local distribution or abundance of the species.
- Damage or destroy a roost (this is an 'absolute' offence)
- Possess, control, transport, sell, exchange or offer for sale/exchange any live or dead bat or any part of a bat

It is possible to undertake damaging activities under the auspices of a European Protected Species Licence issued by Natural Resources Wales which provides a derogation from the Regulations, meaning that an otherwise illegal operation carried out under licence is lawful.

6.1.3.2 Wildlife & Countryside Act 1981

The Wildlife & Countryside Act 1981 (as amended) is the legislation for England and Wales for nature conservation, making it an offence to:

- Intentionally or recklessly disturb a bat in or at a roost;
- Intentionally or recklessly obstruct access to a roost;
- Intentionally destroy, damage or otherwise disturb a roost (whether bats are present or not); and
- Intentionally or recklessly kill, injure or take (capture) a bat.

6.1.3.3 The Environment (Wales) Act, 2016

The Environment (Wales) Act 2016 requires that all public authorities, when carrying out their functions in Wales, seek to “maintain and enhance biodiversity” where it is within the proper exercise of their functions. In doing so, public authorities must also seek to “promote the resilience of ecosystems”.

This ensures that biodiversity is an integral part of the decisions that public authorities take in relation to Wales. It also links biodiversity with the long-term health and functioning of our ecosystems, therefore helping to align the biodiversity duty with the framework for sustainable natural resource management provided in the Act.

In Wales, this legislation replaces and enhances the Natural Environment and Rural Communities Act (2006) which sought to raise the profile of biodiversity and to make sure that it is considered in all local authority decisions by ensuring that “Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.”.

Other elements of NERC 2006 may still apply.

6.1.3.4 Desk study

Please refer to **section 4.5.2.1** above.

6.1.4 Bats - impact characterisation

It is likely that bat foraging habitat over the development site will be modified by the development.

6.1.5 Bats - impact assessment without mitigation

It is considered that there will be **no adverse** impacts on roosting bats as a result of the development.

There may be impacts on foraging bats as a result of reduction in habitat and increased site lighting.

6.1.6 Bats - mitigation measures

Mitigation will be required

Protection and mitigation measures will include:

- Retention of the flight lines along all boundaries as unlit dark corridors;
- The hedgerow to the north west will remain in darkness
- There will be a new hedgerow/planting strip to the north of the site along the SINC boundary. This area will remain dark.

The following will need to be included within the development:

- Provision of pole mounted bat boxes or boxes on houses;
- Sympathetic landscape planting to provide bats with foraging habitat.

6.1.7 Bats - impact characterisation with mitigation

It is considered that there will be **no adverse** impacts on roosting bats as a result of the development.

6.1.8 Bats - significance of the impact

Without mitigation

It is considered that the significance of the impact is **moderate**

With mitigation

It is considered that the significance of the impact is **slight**.

6.2 BADGER

6.2.1 Summary

No evidence of badgers was recorded from the development site or immediately adjacent habitat.

There are records of this species within 2km of the development site. It is possible that badgers will use the site for foraging, however, this is less likely due to disturbance.

Specific mitigation will not be required as it is considered unlikely that there will be any adverse impacts on this species as a result of the development.

6.2.2 Badger ecology

Badgers (*Meles meles*) are common and widespread throughout the UK. They are mainly nocturnal mammals living in social groups (clans) in underground homes called setts. They feed mostly on earthworms and other invertebrates but will take almost any other food which might be available according to season, accessibility and luck including small mammals, carrion and plants, particularly bulbs.

The preferred habitat for badger feeding is the short turf of pasture land as food is more readily available in this habitat although being very adaptable, they are found in a wide variety of habitats, ranging from woodland and scrub, to urban settings.

Setts are typically dug into well-drained slopes with cover provided by scrub, hedge banks or woodland areas.

6.2.3 Legislation

Badgers are protected under the Protection of Badgers Act 1992, mainly to prevent cruelty to badgers as a result of badger baiting. (They are also listed on Appendix III of the Bern Convention). It is an offence:

- to wilfully kill, injure, take (capture), possess or cruelly ill-treat a badger;
- to attempt to do so; or
- to intentionally or recklessly interfere with a sett.

(Sett interference includes damaging or destroying a sett, obstructing access to a sett, and disturbing a badger whilst it is occupying a sett).

A development licence is required for works which may disturb or destroy a badger sett. Disturbance may include working near a sett.

6.2.4 Methodology

6.2.4.1 Biological records data search

Please see **section 4.5.2.5** above.

6.2.4.2 Habitat assessment

The suitability of the habitat was assessed by comparing the habitat available to the following factors:

- presence of banks to excavate setts into;
- presence of woodland and scrub cover; and
- grass-scrub mosaic (potential foraging areas).

6.2.4.3 Field survey

The survey area was searched for signs of badger activity by walking the site, including the perimeter of any boundaries such as fences, hedges and stone walls. Signs searched for included:

- sett entrance holes;
- badger pathways under fences and through vegetation;
- badger footprints;
- latrines and badger dung;
- badger hairs caught on wire; and
- feeding areas in short turf.

Badger surveys can be carried out at any time of year. While badgers are most active during spring to autumn, evidence of badgers can be most obvious during the winter months when the vegetation is low.

Setts are assessed and categorised according to the following criteria:

- main setts - large, well established, often extensive and in continuous use. It is where the cubs are most likely to be born. There is only one main sett per social group of badgers;
- annexe setts - occur in close association with the main sett, and are linked to the main sett by clear well-used paths. If a second litter of cubs is born, this may be where they are reared;
- subsidiary setts - consist of, usually, up to five holes, and are not in continuous use;
- outlying setts - consist of one to three holes. Usually they have small spoil heaps indicating that underground they are not very extensive.

Setts are also assessed for their level of use:

- well used - entrances are clear of any debris or vegetation, are obviously in regular use, and may or may not have been excavated recently;
- partially used - entrances are not in regular use and have debris such as leaves or twigs in the entrance, or have moss and/or other plants growing in or around the entrance. Partially used holes could be in regular use after a minimal amount of clearance;
- disused - entrances have not been in use for some time, are partially or completely blocked, and cannot be used without a considerable amount of clearance. If the hole has been disused for some time all that may be visible is a depression in the ground where the hole used to be, and the remains of the spoil heap, which may be covered by moss or plants.

The survey was carried out in October 2021 by experienced ecologists from BE Ecological Ltd.

6.2.4.4 Results

No evidence of badgers was observed on or immediately adjacent to the proposed development site.

6.2.5 Badger – evaluation

Due to the legislation afforded to them, it is considered that badgers are of **high national** importance.

No evidence of badgers was observed on the site.

It is considered that the site is unlikely to be used frequently by badgers and that the site is therefore of **negligible - low local (site)** importance for this species.

6.2.6 Badger - impact characterisation

It is considered unlikely that there will be any impact on badgers.

6.2.7 Badger - impact assessment without mitigation

It is considered that as there was no evidence of badgers on the site, there will be **no adverse** impacts on this species as a result of the development.

6.2.8 Badger - mitigation measures

Mitigation will not be required unless evidence of badgers is found during the course of the development (design, clearance, construction and operational phases).

6.2.9 Badger - impact characterisation with mitigation

It is considered that there will be **no adverse** impacts on this species.

6.2.10 Badger - significance of the impact

Without mitigation

It is considered that the significance of the impact is **neutral**.

With mitigation

It is considered that the significance of the impact is **neutral**.

6.3 BREEDING BIRDS

6.3.1 Summary

A full breeding bird survey was not undertaken as it should be assumed that all the areas of scrub are likely to be used by birds for nesting.

It should be assumed that all scrub and tree vegetation on the site is used by birds for breeding purposes during the nesting season.

The areas of grassland and bare ground are not considered to be suitable for ground nesting species for breeding purposes as they are small and overlooked.

6.3.2 Ecology

Most British avian species are found breeding during the spring and summer months, between April and August, although some, such as pigeons, and doves will frequently breed at all times of year, as they are not dependent on small, soft-bodied invertebrates to provide food for their chicks. Some other species, such as barn owl (*Tyto alba*) have also been recorded breeding in the winter months, in years when winters have been mild, and small mammal prey plentiful, although such breeding attempts are unusual, with chicks frequently failing to fledge. The breeding season can be extended for most species if the weather is mild, and food plentiful.

Contrary to common belief, whilst some bird species, such as crows and rooks, nest high in trees, often more than 10m high, the majority of British breeding birds will nest within 2m of the ground (or on the ground) within dense scrub or within holes and other natural and manmade cavities in rocks and walls.

Most bird species take considerably less than 60 days from egg-laying to chick fledging, whilst others, such as barn owl, can take more than 90 days. Many, but not all British species will make multiple breeding attempts if environmental conditions and food availability allow.

6.3.3 Legislation

In Britain, all naturally occurring avian species are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended). The legislation protects all birds, their nests and eggs, and it is an offence to:

- Intentionally kill, injure or take a wild bird;
- Intentionally take, damage or destroy the nest of any wild bird whilst it is in use or being built; and
- Intentionally take or destroy the egg of any wild bird.

In addition, birds listed on Schedule 1 of the Act, such as the Red Kite (*Milvus milvus*), are afforded further protection, and it is an offence to:

- Intentionally or recklessly disturb the bird whilst nest building or while at (or near) a nest with eggs or young; and
- Disturb the dependant young of such a bird.

6.3.4 Methodology

6.3.4.1 Habitat assessment

Signs looked for included:

- Availability of nesting habitat;
- Availability of foraging habitat;
- Territorial displays by birds;
- Courtship displays;
- Territory establishment and holding behaviour;
- Nests;
- Food carrying;

6.3.5 Constraints

There were no constraints to the assessment.

6.3.6 Results

6.3.6.1 Desk study

There were no records of birds from the development site or immediately adjacent land, however, there were multiple records of birds from the data search.

6.3.6.2 Habitat assessment

The trees and scrub are considered suitable for nesting birds.

All habitats on the site were suitable for foraging purposes, providing a variety of food sources. It should be assumed that woodland and scrub habitats are used for nesting purposes during the breeding season.

It is considered that the site does not provide suitable habitat for ground nesting species as the open areas are small, overlooked by numerous trees and buildings, all of which could be used by avian predators and subject of regular disturbance.

6.3.7 Breeding birds – evaluation

Birds should be considered to be of **high national** importance as a result of the legislation protecting them.

Within the context of the site, there is abundant suitable habitat for the smaller and more common species to utilise for nesting and foraging. It is therefore considered that birds are of a **medium local (site)** ecological importance.

6.3.8 Breeding birds - impact characterisation

It is anticipated that the main body of the site will be cleared in its entirety.

6.3.9 Breeding birds - impact assessment without mitigation

In the absence of mitigation, the removal of vegetation during the breeding season would result in the likely disturbance and destruction of nests and the disturbance, killing and injuring of birds (both adults and juveniles). This would constitute a **certain moderate medium term adverse** impact at a **local (site)** level.

6.3.10 Breeding birds - mitigation measures

Mitigation will be required and should include (but not be limited to) the following measures:

- All vegetation and brash removal should be undertaken outwith the breeding season i.e. between mid-August / September and April inclusive;
- Any clearance close to the start and end of this period should only be undertaken following an assessment by a suitably experienced ecologist as the breeding season is not fixed and is subject to annual variation;
- Where clearance is required during the breeding season, all areas should be subject to an assessment no more than 48 hours in advance to check for the presence of breeding birds;
- Should evidence of breeding birds, in particularly nests, be recorded, no clearance may be undertaken within 15m of any nest site until such time as the nest is vacated naturally; and
- Any post-development landscaping plan should include the provision of scrub &/or shrub habitats that can be utilised by breeding birds.

Consideration should be given to including measures to benefit birds within the housing development e.g. installation of bird boxes on new buildings.

Bird boxes will be erected on the houses on completion of the builds.

6.3.11 Breeding birds - impact characterisation with mitigation

It is considered that there will be a **possible minor short term adverse** impact at a **local (site)** level on breeding birds as a result of the proposed development.

6.3.12 Breeding birds - significance of the impact

Without mitigation

It is considered that the significance of the impact is **slight**.

With mitigation

It is considered that the significance of the impact is **neutral**.

6.4 REPTILES

6.4.1 Summary

No reptile survey was undertaken at the site. It is considered that due to the sites small size and habitats present, reptile presence can be assumed. There is also abundant habitat to the north that reptiles can be pushed towards.

A full trapping and translocation exercise is not considered necessary as long as clearance of the site is undertaken in strict adherence to a method statement designed to prevent harm to any reptiles.

6.4.2 Ecology

Reptiles are ectothermic, meaning they have to rely on external heat sources to warm their blood sufficiently to allow foraging and other activity. During the winter they are in brumation (similar to hibernation), emerging in April (or when the temperatures are consistently warm enough). Males tend to emerge before females, to enable them to prepare for mating. Females emerge a few weeks later and mating takes place. Female reptiles in the UK generally breed every other year to allow them to build up sufficient energy reserves. Grass snakes are the UK's only egg-laying reptile, eggs are laid in summer in warm piles of decomposing vegetation (or similar) and left to develop and hatch on their own. Young reptiles are born/hatch in late summer/early autumn. Brumation (hibernation) starts again as temperatures fall in the autumn.

The four more commonly occurring species of reptile in the UK (adder (*Vipera berus*), grass snake (*Naatrix natrix*) slow worm (*Anguis fragilis*) and common lizard (*Lacerta vivipara*) have different preferences for habitat and diet. Adders generally prey on small mammals in drier habitats, grass snakes primarily hunt amphibians in wetter areas and aquatic habitats, slow worms take small, slow-moving invertebrates and inhabit drier areas and common lizards prey on small, faster-moving invertebrates and tolerate both wet and dry habitats.

6.4.3 Legislation

The four common species listed above are protected by the Wildlife and Countryside Act 1981 (as amended) against killing, injury and sale.

Smooth snake (*Coronella austriaca*) and sand lizard (*Lacerta agilis*) are not found in this area, having very specific geographical distribution within Britain, and so will not be referred to in this report despite the higher legislative protection afforded to them.

6.4.4 Methodology

6.4.4.1 Habitat assessment

The habitat assessment looked for features which would be attractive to reptiles such as:

- south facing banks;
- varied profile ground form;
- basking areas;
- vegetation cover;
- structurally diverse vegetation;
- potential hibernation sites; and
- evidence of suitable prey sources.

6.4.5 Results

6.4.5.1 Desk study

No records of reptiles were returned for the development site or immediate vicinity. There are records of reptiles within 2000m of the development site, species include common lizard, adder and slow worm.

6.4.5.2 Habitat assessment

The site is considered to be generally optimal for reptiles as they provide a range of foraging, basking, sheltering and hibernation habitats. The interface between the small patches of grassland within the scrub are habitats of particular value.

6.4.6 Reptiles – evaluation

Reptiles are protected by UK legislation and therefore they are of **medium to high national** ecological importance.

No reptiles were found throughout the course of the survey.

Overall the site appears to be generally of **low local (site)** value to reptiles. However, there is so much natural refugia and disturbance present on the site, it may be that reptiles chose not to use the artificial refugia.

6.4.7 Reptiles - impact characterisation

It is anticipated that the site will be largely cleared of vegetation, thereby removing the majority of the suitable habitat for this group. It is still possible that in the absence of mitigation, reptiles are likely to be killed or injured during the clearance for the site.

6.4.8 Reptiles - impact assessment without mitigation

It is considered that in the absence of mitigation there would be a **probable minor short term adverse** impact at a **local (site)** level.

6.4.9 Reptiles - mitigation measures

As long as reptile presence is assumed and site clearance is undertaken in accordance with an appropriate method statement, it is considered that a full trapping and translocation exercise is not required, and that habitat manipulation and denial is an appropriate method of ensuring that reptiles are not harmed during the site clearance.

Therefore, the following mitigation will be adopted:

- Clearance will be conducted in accordance with a Method Statement (**Appendix B**) to ensure that should reptiles be found in the course of site clearance or any other development activity, they will not be harmed and can be adequately cared for;
- Clearance will only be undertaken during the reptile active season (April-October, inclusive) unless it is determined that some areas of the site are not suitable for hibernation, unless the ground is too wet for hibernation or temperatures are consistently above 12 for seven consecutive days;

- Clearance outwith this period is possible, but depends on weather and temperatures being suitable to ensure that reptiles are likely to be active;
- There will be no clearance of hibernation habitat outwith the active season unless temperatures allow;
- Reptiles will be excluded from entering or re-entering the site during clearance/operational phase of works by ensuring that the site is kept as bare ground i.e. clear of any vegetation or other shelter
- The habitat will be cleared from south to north in order to push reptiles into retained habitats.

6.4.10 Reptiles - impact characterisation with mitigation

It is considered that there will be an **unlikely minor short term adverse** impact at a **local (site)** level as a result of the proposed development.

6.4.11 Reptiles - significance of the impact

Without mitigation

It is considered that the significance of the impact is **slight**.

With mitigation

It is considered that the significance of the impact is **neutral**.

6.5 INVERTEBRATES

6.5.1 Summary

There are numerous records of invertebrate species within the records data search, due to the disturbance and habitats present on the site, it is considered that there will be a small number of common and widespread invertebrates present.

There are foodplants available for a range of species.

6.5.2 Ecology

Invertebrates are animals without spines or an internal skeleton, relying on their bodies to give them structure. There are over 40000 species of invertebrate in the United Kingdom, distributed across all terrestrial, aquatic and marine ecosystems. Their lifestyles are superficially at least similar; however, each genus has distinguishing characteristics, with each species within each genus having subtle differences resulting in each species occupying its own ecological niche.

Adults lay eggs which then hatch into larvae. The larvae then develop into adults. The processes involved in these three life stages are different from genus to genus and species to species and can be incredibly intricate, with sometimes very specific requirements, any interruption to which can cause any of the life stages can fail.

Adult animals generally have very specific food requirements, favouring single plant species or food source. Larvae and adults can be either plant eating or carnivorous dependent on species. The food source is a good indicator of how widespread a species may be: the more specific a food source, the more prone to range restrictions it may be.

Animals will generally be active during the spring, summer and autumn months and overwinter as eggs or larvae; some adults do go into hibernation over winter.

6.5.3 Legislation

No invertebrates are in receipt of international legal protection with the exception of the large blue (*Phengaris arion*) butterfly, protected by the Conservation of Habitats and Species Regulations 2017 (as amended) ; a number of other species are fully and partially protected by the Wildlife and Countryside Act 1981 (as amended). A number of species are listed on Section 42 of Species of Principal Importance to Wales and may, with others, be included within local planning authorities Biodiversity Action Plans (LBAPs).

6.5.4 Methodology

6.5.4.1 Habitat assessment

The proposed development site was subject of a walkover to assess its potential to provide suitable habitat for invertebrates. The features looked for included:

- Presence of a mosaic of multiple habitats;
- Presence of structural diversity in the habitats present;
- Presence of bare ground;
- Presence of common and likely food plants;
- Site aspect; and
- Previous and current land use.

6.5.5 Constraints

There were no constraints to the walkover.

6.5.6 Results

6.5.6.1 Habitat assessment

There is a record of Marsh Fritillary and Broom moth from within 500m of the development site.

There is a varied mosaic of habitats on the site including grassland and scrub. There is abundant invertebrate habitat within the surrounding areas.

There are some food plants present on site for numerous invertebrates including section 7 species.

6.5.7 Invertebrates – evaluation

There are food plants on site suitable for a range of invertebrate species. Species present are likely to be common and widespread only due to the sites habitats.

6.5.8 Invertebrates - impact characterisation

It is considered that there will be a loss of scrub and grassland that may support common and widespread species and possibly some species mentioned on section 7 of the environment wales act

6.5.9 Invertebrates - impact assessment without mitigation

It is considered that there will be a **possible minor short term** adverse impact.

6.5.10 Invertebrates - mitigation measures

It is suggested the following measures are implemented as far as possible.

- Clearance is to be preferentially undertaken during the autumn and winter months
- Topsoil will be stripped, screened and stored ready for reuse in the landscaping areas
- Storage bunds will be no more than 1.8 high and firmed down well

6.5.11 Invertebrates - compensation measures

- The creation of new vegetated habitats
- The garden will be topsoiled with stored soil. There will be an area against the SINC that will be re-seeded with an Emorsgate EM3 seedmix
- Appropriate conservation management will be implemented.

6.5.12 Invertebrates - impact characterisation with mitigation

It is considered that there will be a **short term minor adverse impact**.

6.5.13 Invertebrates - significance of the impact

Without mitigation

It is considered that the significance will be **slight**.

With mitigation

It is considered that the significance of the impact will be **neutral**.

7 CONCLUSION AND RECOMMENDATIONS

Overall the site is of a moderate ecological value at a local level due to the habitats present, and the species that may reside on the site.

Breeding birds should be assumed to be present on the site. Mitigation for these groups is therefore required. All site clearance should be undertaken under ecological supervision.

Site clearance in respect of reptiles will be undertaken in line with a method statement and ecological supervision as a precautionary approach. This will also benefit other species (e.g. amphibians) which may otherwise be affected by site clearance.

13cm x13cm gaps (one gap every 15-20m) will be created at the bases of fences at the site boundaries to allow passage of hedgehogs across the site. Cautious working will be undertaken when clearing the site to prevent killing or injury to this species.

It is considered that no other ecological surveys are required.

It is recommended that the mitigation measures, outlined in the various sections above are incorporated as far as is possible into the design process for this development. and construction methodologies.

There will be no lighting of retained habitats , dark corridors will need to be implemented throughout the development to allow light intolerant species to continue using the site should they wish.

A buffer area will be planted on the sites northern boundary between the site and the SINCS. The area will be left free from the development. Access to the buffer zone will be prevented with a fence.

All boundaries of the site will be kept dark and conform to the following guidance <https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/>

The following sparrow terrace or similar will be integrated to the north western elevation of the property <https://www.nhbs.com/vivara-pro-woodstone-house-sparrow-nest-box>

The following bat block https://www.nhbs.com/bat-block?bkfno=246596&ca_id=1495&adlocale=uk&gclid=CjwKCAiAnO2MBhApEiWA8q0HYTrlItmUdfXSmZQgvmupqeYj1cFwdN5KLrnJOB2F_rfrsEINTpQV1BoCx1EQAvD_BwE or similar will be integrated to the south eastern elevation of the property.

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APPENDIX A - PHOTOS

PHASE 1 HABITAT SURVEY PHOTOS

Plate 2- south western corner of the site



Plate 2- south western corner of the site



Plate 3- northern boundary



Plate 4- northern corner of the site



Plate 5- south eastern corner of the site



Plate 6- south esastern corner of the site



Plate 7- northern corner of the site



Plate 8- mossy carpet



Plate 9- eastern corner of the site



Plate 10- south western end of the site



Plate 11- north eastern boundary



APPENDIX B– SITE CLEARANCE METHOD STATEMENT

1. All clearance will be supervised by a suitably experienced ecologist until such time as the ecologist states that direct supervision is not necessary.
2. The ecologist will be on call for the duration of clearance works.
3. Vegetation will be cleared from directly affected areas only.
4. All above ground vegetation removal will preferentially be undertaken during the winter months i.e. between November and February inclusive.
5. If this is not possible, all areas to be cleared must be subject of a finger-tip search by an ecologist immediately prior to and during any clearance work; the ecologist should also be present while all post hole excavation (or other ground breaking should it be required) is being undertaken.
6. Should evidence of breeding birds, in particularly nests, be recorded, no clearance may be undertaken within 5m of any nest site until such time as the nest is vacated naturally.
7. No spraying of vegetation to be carried out. Vegetation will be maintained close to ground using repeated cutting only. 1x Hibernaculum will be added to an area of the garden remaining unaffected by the development. Materials already onsite (e.g., brash, logs) will be used.
8. Woody vegetation will be cleared (ONLY IF NECESSARY) to ground level using a chainsaw with all arisings stacked in unaffected areas NOT on areas of tall vegetation (over 300mm). Where necessary, stumps and roots will only be removed by machine (under ecological supervision) once the clearance is complete.
9. All woody vegetation will be checked by the ecologist prior to cutting for the presence of bird nests.
10. Vegetation will be cut in three phases. The first phase will reduce the vegetation height to 150mm; the second will reduce it to ~50mm; the third phase will reduce the height to as close to ground level as possible. All cuts will have a period of 24 hours between each cut.
11. All vegetation cutting will be directional. This ensures that any animals present will be pushed from the site into adjacent retained habitats.
12. After clearance, if the vegetation is allowed to regrow above 150mm high, it will be cut and raked as described above.
- 13. Where necessary, potential hibernacula (brash, log piles, stumps, roots etc) and ground breaking will only be cleared during the active season (March-October) while day time temperatures are consistently over 12°C for a period of at least seven days prior as otherwise reptiles may be killed or injured as a result of inconsistent (low) temperatures (during the day and night) and/or low prey availability. Potential hibernacula will only be dismantled by hand unless the supervising ecologist gives the approval for machine dismantling.**
14. If a bird's nest is observed on the site, the ecologist will assess it to determine whether or not it is active, the species concerned, the lifecycle state of any occupants and provide advice on next steps.
15. If reptiles are observed within the clearance area during the works, a decision on how to deal with them will be made on site in light of the conditions on site at the time and the state of the animals themselves. There are three options for dealing with them:
 - It may be possible to leave the animals alone to find their own way into cover, depending on where they are seen, what they are doing and their apparent activity levels; or

- Capture, remove from site and take into temporary captivity until such time as they can be released adjacent to the cleared area (a vivarium has been prepared in case it is required); or
- Should conditions allow, capture and translocate the animals to a safe area immediately adjacent to the site.

16. Habitat and the unlikely presence for other species (e.g. dormice, otter, great crested newts & other amphibians etc.) can be identified and avoided by following this method statement.

17. In the event that a European Protected Species such as great crested newt or dormouse is observed during the clearance,, all work will stop, and the ecologist consulted. It will be necessary to consult with Natural Resources Wales; further surveys and a development licence may be required before work can recommence.

If large numbers of reptiles are discovered, an offsite receptor area should be suggested to be agreed by the County Ecologist.

In Summary the works will proceed as follows:

1. Vegetation reduced to 150mm	Any time of year (following an inspection for breeding birds if undertaken during active season)
2. Vegetation reduced to 50mm	24 hours after first cut
3. Vegetation cut to ground level	25 hours after second cut
4. Removal of potential hibernacula (stumps, rubble piles, ground breaking etc)	Preferably March to October or when temperatures have been above 12 degrees for a period of seven days or more
The site will be kept as close to bare ground as possible via repeated cutting to ensure that reptiles do not re-colonise the site.	

The site will be cleared from south to north in order to push reptiles into the habitat beyond the northern boundary.

APPENDIX C - TARGET NOTES

Target note number	Description
TN 1	Habitat mixed with improved grassland
TN2	Moss carpet

APPENDIX D – SPECIES LIST

Crack willow, bramble, grey willow, sycamore, spruce, silver birch, bracken, springy turf moss, hedge bindweed, rosebay willowherb, great willowherb, red fescue, common nettle, rough and smooth meadow grass, cocksfoot, perennial ryegrass, eared willow, hawthorn, ivy, ribwort plantain, hazel, wood avens, blackthorn, thistle, meadow buttercup, common sorrel, crested dogstail, broadleaved dock, curled dock, marsh thistle, greater plantain, perennial ryegrass, yarrow, dandelion, autumn flowering hawkbit, neat feather moss, creeping thistle and soft rush.

APPENDIX E– PLAN SHOWING ENHANCEMENTS

