



PRELIMINARY ECOLOGICAL APPRAISAL

Graig Madoc, Llanmihangel, Pyle, CF33 6RL

Client	Laura and Luke Healey
Site grid reference	SS 81753 82737
Field survey dates	15 th June 2026 and 9 th July 2026
Surveyors	Daniel Lock and Emma Lock
Report author	Daniel Lock
Report date	July 2026
Associated report	Spectrum Ecology Full Bat Survey, June 2026

This report is valid for two years from the final field survey, provided there is no material change in habitat condition, site management or the development proposals.

Document control

Version	Date	Prepared by	Status
1.0	July 2026	Daniel Lock	Final
Checked	July 2026	Emma Lock	Quality assurance
LERC reference	25 th June 2026	SEWBRc 0267-247	Data valid to 25 June 2027
Bat report	June 2026	Daniel Lock	Separate supporting report
Planning drawing	Current proposal	Taliesin Architecture Ltd	Enhancements excluded from baseline

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This report presents the conditions recorded during the stated survey visits and the professional opinion of the surveyors based on the information available at the time. Ecological conditions can change, and the absence of evidence is not evidence of permanent absence. The report is intended solely to support the planning application described herein and should be read alongside the separate bat survey report and current architectural drawings. It may not be altered or reproduced without the permission of Spectrum Ecology.

Executive summary

Spectrum Ecology was commissioned by Laura and Luke Healey to undertake a Preliminary Ecological Appraisal (PEA) of Graig Madoc, Llanmihangel, Pyle, to accompany a planning application for modest extensions and alterations to an existing dwelling.

The proposed development comprises two rear extensions, an increase in the height of the existing eaves and the replacement and repositioning of an existing garage. The proposals are confined almost entirely to the established residential curtilage and avoid the principal ecological features of the site.

The appraisal was undertaken in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Preliminary Ecological Appraisal and uses the former JNCC Phase 1 Habitat Survey classification to describe habitats. Although UKHab has become increasingly established in some sectors of ecological practice, Phase 1 habitat classification remains widely used for Preliminary Ecological Appraisals submitted to Welsh Local Planning Authorities. Where appropriate, equivalent UKHab classifications are referenced for clarity.

The site comprises a typical rural residential property set within an agricultural landscape. Habitats include amenity grassland, improved grassland, a small, young orchard, intact species-poor hedgerows, mature and recently planted trees, a bracken stand, introduced ornamental shrubs, buildings and areas of bare ground and hardstanding.

The principal ecological interest of the site lies not within the proposed development footprint itself but in the mature trees, established hedgerows and associated habitat corridors linking the site to the wider countryside and the Afon Cynffig approximately 250 metres to the west.

The main paddock is classified as Improved Grassland (Phase 1 B4). Although supporting a modest diversity of common grassland herbs, including common knapweed, oxeye daisy, common sorrel, purple vetch and red campion, the sward remains dominated by productive grasses and abundant white clover and is subject to regular topping. The grassland therefore does not meet the botanical criteria for classification as semi-improved grassland, although it exhibits evidence of gradual natural diversification and has the potential to increase in ecological value under sympathetic management.

A desk study undertaken through the South East Wales Biodiversity Records Centre (SEWBRc) confirmed the presence of numerous protected and priority species within the surrounding landscape, including bats, hedgehog, badger and common lizard. The application site lies within the mapped extent of the NPT Watercourses SINC; however, the proposals are confined to the existing residential curtilage and are not expected to adversely affect the features for which the SINC is designated.

A separate bat survey identified the dwelling as having moderate suitability for roosting bats but found no evidence of an active bat roost. Common pipistrelle bats were recorded commuting and foraging along the adjacent hedgerows and lane, while noctule bats were recorded foraging over fields to the west. Subject to implementation of the recommendations contained within the accompanying bat report, no European Protected Species licence is considered necessary.

The proposed development has been designed to retain the site's principal ecological features, including mature trees and established hedgerows. The repositioning of the replacement garage further reduces the potential for impacts upon these features.

Provided the recommendations contained within this report are implemented, including the protection of retained habitats during construction, sensitive lighting design, precautionary working methods and delivery of the proposed biodiversity enhancements, the development is not expected to result in significant adverse ecological effects.

The proposals accord with the biodiversity duties contained within Section 6 of the Environment (Wales) Act 2016 and the requirements of Planning Policy Wales (Edition 12), including application of the Step-wise Approach. The proposed wildlife pond, native planting, strengthening of hedgerows, integrated bat and bird features and improved habitat management have the potential to deliver a demonstrable enhancement of biodiversity and ecological resilience.

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1. Introduction

1.1 Commission and Purpose

Spectrum Ecology was commissioned by Laura and Luke Healey to undertake a Preliminary Ecological Appraisal (PEA) of Graig Madoc, Llanmihangel, Pyle (OS Grid Reference SS 81753 82737).

The purpose of the appraisal is to establish the ecological baseline of the site, identify ecological constraints associated with the proposed development, determine whether further ecological surveys are required and provide recommendations to avoid, minimise and mitigate potential impacts on biodiversity. The report has been prepared to accompany a planning application for residential development and to inform the associated Green Infrastructure Statement.

The assessment has also considered opportunities to enhance biodiversity in accordance with Planning Policy Wales (Edition 12), the Environment (Wales) Act 2016 and the Well-being of Future Generations (Wales) Act 2015.

1.2 Proposed Development

The proposals comprise:

- construction of two rear extensions measuring approximately 6 m × 6 m each;
- a modest increase in the height of the existing eaves;
- demolition and replacement of the existing garage;
- repositioning of the replacement garage within the existing residential curtilage.

The proposed development remains largely confined to existing developed land and intensively managed garden areas.

The architectural drawings also illustrate a number of proposed biodiversity enhancements, including the creation of a wildlife pond, additional native planting and landscape improvements. These features form part of the proposed development and have **not** been included within the ecological baseline described in this report.

1.3 Site Context and Zone of Influence

Graig Madoc occupies a rural residential plot on the outskirts of the village of Pyle, within Neath Port Talbot County Borough.

The approximately triangular landholding is surrounded by improved agricultural land and forms part of a wider network of fields bounded by mature hedgerows and scattered woodland.

The eastern and western boundaries comprise mature native-dominated hedgerows which converge towards the northern end of the property. The southern boundary consists primarily of post-and-wire / Rylock fencing without a hedgerow.

The River Kenfig (Afon Cynffig) lies approximately 250 metres west of the site at its closest point, and forms part of an important ecological corridor connecting wetlands, woodland and agricultural habitats across the wider landscape.

Although the site itself supports predominantly modified habitats associated with a rural dwelling, it contributes to the wider ecological network through the retention of mature trees, hedgerows and structurally diverse garden habitats which provide opportunities for commuting, foraging and nesting wildlife.

2. Policy, Legislation and Guidance

The ecological assessment has been undertaken with reference to current planning policy, wildlife legislation and recognised professional guidance relevant to development proposals in Wales.

The assessment has been prepared in accordance with the principles of the Chartered Institute of Ecology and Environmental Management (CIEEM) *Guidelines for Preliminary Ecological Appraisal* and has considered the requirements of Planning Policy Wales (Edition 12), the Environment (Wales) Act 2016 and other relevant legislation.

Habitats have been classified using the former JNCC Phase 1 Habitat Survey methodology (JNCC, 2010), which remains widely used within Wales for Preliminary Ecological Appraisals and is well understood by Local Planning Authorities and statutory consultees. Where appropriate, equivalent UKHab terminology is referenced where this aids interpretation or consistency with current ecological practice. The use of Phase 1 habitat classification does not affect the application of current ecological assessment methodologies, biodiversity policy or legislative requirements.

2.1 Planning Policy Wales Edition 12

Planning Policy Wales (PPW), Edition 12, establishes the Welsh Government's overarching planning policy framework for the conservation and enhancement of biodiversity.

Chapter 6 (*Distinctive and Natural Places*) requires planning decisions to maintain and enhance biodiversity, promote ecosystem resilience and secure a net benefit for biodiversity wherever practicable.

Central to PPW is application of the Step-wise Approach, which requires ecological impacts to be addressed in the following sequence:

1. Avoid impacts wherever possible.
2. Minimise impacts that cannot be avoided.
3. Mitigate and restore affected habitats.
4. Compensate only where significant residual impacts remain unavoidable.
5. Secure a demonstrable net benefit for biodiversity.

This sequence has informed both the design of the proposals and the recommendations contained within this report.

PPW also requires planning authorities to consider ecological connectivity and the wider Green Infrastructure network rather than evaluating habitats solely on their intrinsic value. Accordingly, this assessment considers both the ecological value of individual habitats and their contribution to the surrounding landscape.

2.2 Environment (Wales) Act 2016

Section 6 of the Environment (Wales) Act 2016 places a duty upon public authorities to seek to maintain and enhance biodiversity and, in doing so, promote the resilience of ecosystems.

Ecosystem resilience is assessed using the DECCA principles:

- **Diversity**
- **Extent**
- **Condition**
- **Connectivity**
- **Adaptability**

These principles have been used within this report to evaluate the existing ecological resource and the likely outcomes of the proposed development.

Section 7 of the Act identifies Habitats and Species of Principal Importance in Wales. Although the presence of a Section 7 habitat or species does not automatically preclude development, planning authorities must have regard to their conservation when determining planning applications.

2.3 Wellbeing of Future Generations (Wales) Act 2015

The Wellbeing of Future Generations (Wales) Act establishes a statutory framework for sustainable development in Wales.

Among its seven national Wellbeing Goals are:

- A Resilient Wales;
- A Healthier Wales;
- A Globally Responsible Wales.

The proposed biodiversity enhancements recommended within this report contribute positively towards these objectives through the creation and enhancement of green infrastructure and improved ecological resilience.

2.4 Green Infrastructure

Planning Policy Wales recognises Green Infrastructure (GI) as a strategically planned and managed network of natural and semi-natural features capable of delivering ecological, environmental and social benefits.

Green Infrastructure extends beyond designated sites and includes features such as hedgerows; trees, gardens, watercourses, ponds, grasslands, roadside verges, woodland and sustainable drainage features.

The existing mature hedgerows, scattered trees, orchard, domestic gardens and surrounding agricultural landscape together form part of the local Green Infrastructure network.

The proposed biodiversity enhancements, including the creation of a wildlife pond, strengthening of native planting and installation of integrated wildlife features, have been considered within this wider Green Infrastructure context.

2.5 Relevant Wildlife Legislation

The following legislation is relevant to the proposed development.

Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019

These Regulations provide protection for European Protected Species, including all species of bat.

It is an offence, except under licence, to:

- deliberately capture, injure or kill a protected species;
- deliberately disturb protected animals in circumstances likely to affect their conservation status;
- damage or destroy a breeding site or resting place.

The implications of this legislation have been considered within the accompanying bat survey and this Preliminary Ecological Appraisal.

Wildlife and Countryside Act 1981 (as amended)

The Wildlife and Countryside Act affords protection to numerous species of plants and animals, including:

- nesting wild birds;
- reptiles;
- amphibians;
- certain mammals;
- selected plant species.

Section 1 of the Act makes it an offence to intentionally damage or destroy the active nest of any wild bird while in use or being built.

The recommendations contained within this report seek to ensure compliance with these provisions.

Protection of Badgers Act 1992

This Act protects badgers and their setts from damage, obstruction or disturbance.

Although no evidence of badgers or active setts was identified during the survey, precautionary recommendations are included should evidence be discovered prior to or during construction.

Hedgerows Regulations 1997

The Hedgerows Regulations provide protection for certain countryside hedgerows considered important on archaeological, historical or ecological grounds.

The mature hedgerows present on the eastern and western boundaries are proposed for retention and are recognised as the principal ecological features of the site.

2.6 Professional Guidance

This assessment has been prepared with reference to the following guidance.

CIEEM Guidelines for Preliminary Ecological Appraisal (Second Edition)

These guidelines establish recognised professional standards for Preliminary Ecological Appraisals and describe the process for:

- identifying habitats;
- assessing ecological constraints;
- evaluating ecological importance;
- determining the need for further survey;
- identifying opportunities for biodiversity enhancement.

This report follows those principles throughout.

JNCC Phase 1 Habitat Survey

Habitats have been classified using the JNCC Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit (JNCC, 2010).

Although UKHab is increasingly adopted for habitat mapping in some sectors, Phase 1 remains an appropriate and widely recognised methodology for Preliminary Ecological Appraisals within Wales. It provides a clear and proportionate means of describing habitats encountered during walkover surveys and remains familiar to planning authorities, ecological consultants and statutory consultees.

Where useful, equivalent UKHab terminology is referenced within the report to aid interpretation and consistency with contemporary ecological practice.

Bat Conservation Trust

The accompanying bat survey has been undertaken in accordance with:

- *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4th Edition, 2023); and
- the subsequent Bat Conservation Trust guidance relating to the use of Night Vision Aids.

The conclusions of the bat survey have been incorporated into this Preliminary Ecological Appraisal where relevant.

3. Methodology

3.1 Overview

The Preliminary Ecological Appraisal (PEA) comprised a desk study and an extended walkover survey of the site to establish the baseline ecological conditions, identify habitats of ecological importance, assess the suitability of the site for protected and notable species, evaluate potential ecological constraints associated with the proposed development and identify opportunities for biodiversity enhancement.

The assessment was undertaken in accordance with the principles contained within the CIEEM Guidelines for Preliminary Ecological Appraisal (Second Edition) and follows a proportionate approach appropriate to the scale and nature of the proposed development.

The appraisal also considers the requirements of Planning Policy Wales (Edition 12), the Environment (Wales) Act 2016 and current Natural Resources Wales guidance.

3.2 Desk Study

A biological records search (Package B) was obtained from the South East Wales Biodiversity Records Centre (SEWBReC).

Reference: 0267-247

Date generated: 25th June 2026

Data valid until: 25th June 2027

The desk study included information relating to:

- statutory designated sites;
- non-statutory designated sites;
- Habitats of Principal Importance;
- Species of Principal Importance;
- protected species records;
- invasive non-native species;
- available habitat mapping.

The search results were reviewed to identify ecological features that may influence the proposed development or indicate the potential presence of protected or notable species within the site.

The search covered a radius of approximately 1 km from the application site. Records were reviewed with regard to their age, location and relevance to the proposed development. The complete SEWBReC data enquiry report is retained by Spectrum Ecology but has not been reproduced within this report because it contains licensed data and potentially sensitive species information. Relevant findings have been summarised at a level sufficient to inform the ecological assessment and may be provided to the Local Planning Authority or its ecological adviser where necessary, subject to the applicable data-use restrictions.

The following additional information sources were also reviewed:

- Ordnance Survey mapping;
- recent aerial photography;
- the proposed site layout prepared by Taliesin Architecture Ltd;
- the accompanying Spectrum Ecology Bat Survey Report;
- observations recorded during the site surveys.

The desk study provides an important contextual understanding of the surrounding ecological resource but does not confirm the presence or absence of protected species within the application site itself.

3.3 Field Survey

Walkover field surveys were undertaken on 15th June 2026 and 9th July 2026 by Daniel Lock and Emma Lock.

The survey consisted of an extended walkover inspection of the entire site.

The following were recorded:

- habitat types;
- dominant and notable plant species;
- habitat condition;
- structural diversity;
- ecological connectivity;
- evidence of protected species;
- habitat suitability for protected and notable species;
- opportunities for biodiversity enhancement.

Particular attention was given to features capable of supporting protected species including:

- mature trees;
- hedgerows;
- buildings;
- rough grassland;
- bracken;
- disturbed ground;
- rubble;
- garden habitats;
- potential commuting corridors.

Representative photographs were taken throughout the survey and Target Notes were recorded to identify the principal habitats and ecological features. These Target Notes correspond with the Phase 1 Habitat Plan presented as Figure 2 in Section 5.3.

3.4 Habitat Classifications

Habitats were classified using the JNCC Phase 1 Habitat Survey methodology.

Although UKHab has become increasingly adopted within certain sectors of ecological practice, particularly where biodiversity metrics are required, Phase 1 habitat classification remains widely used for Preliminary Ecological Appraisals within Wales and continues to provide a clear and proportionate means of describing habitats encountered during walkover surveys.

Where appropriate, equivalent UKHab terminology has been referenced within the report to aid comparison with current guidance. However, the ecological evaluation and recommendations presented within this report are based upon the observed ecological characteristics of each habitat rather than the classification system itself.

Habitat mapping has been undertaken at a level proportionate to a Preliminary Ecological Appraisal and is not intended to represent a detailed botanical survey or National Vegetation Classification (NVC) survey.

3.5 Botanical Survey

The botanical survey was undertaken to characterise habitats rather than to produce a comprehensive floristic inventory.

Dominant, frequent and notable vascular plant species were recorded throughout the site to assist habitat classification and ecological evaluation.

Species abundance has therefore been described qualitatively using professional judgement rather than formal quadrat analysis.

No attempt was made to undertake National Vegetation Classification (NVC), Phase 2 botanical survey or detailed species abundance analysis.

The species list included within Appendix A should therefore be regarded as representative of the habitats present rather than exhaustive.

3.6 Protected and Notable Species

The potential for protected and notable species to occur within the site was assessed through review of biological records, direct field observations, habitat suitability assessment, evidence of field signs and consideration of the surrounding landscape.

The assessment considered the suitability of habitats for:

- bats;
- breeding birds;
- badger;
- hedgehog;
- reptiles;
- amphibians, including great crested newt;
- dormouse;
- otter;
- water vole;
- notable invertebrates.

The appraisal follows the precautionary principle where uncertainty exists but also considers the scale of the proposed development and the likelihood of significant ecological effects.

Detailed species-specific surveys were undertaken only where considered proportionate.

In relation to bats, the findings of the accompanying bat survey supersede the preliminary habitat assessment contained within this report.

3.7 Ecological Evaluation

Ecological features have been evaluated broadly in accordance with the principles described within the CIEEM *Guidelines for Ecological Impact Assessment*.

Habitats have been considered in terms of:

- intrinsic ecological value;
- rarity;
- condition;

- size;
- naturalness;
- connectivity;
- function within the wider landscape;
- potential to support protected or priority species.

The assessment recognises that ecological value does not arise solely from individual habitat quality but also from the contribution that habitats make to ecological networks and ecosystem resilience.

Habitats have therefore been evaluated at an appropriate geographical scale, ranging from negligible value to national value where applicable.

In accordance with Planning Policy Wales, the report also considers the DECCA principles of:

- Diversity;
- Extent;
- Condition;
- Connectivity;
- Adaptability.

3.8 Survey Limitations

The surveys were undertaken during the principal growing season and are considered appropriate for a Preliminary Ecological Appraisal.

Prior to the initial survey visit (15th June), the main paddock had been recently topped. This reduced the visibility of some flowering plants and limited the completeness of the botanical inventory. However, sufficient vegetative characteristics remained to enable confident habitat classification and ecological evaluation.

The paddock was revisited on 9th July 2026, following topping, to enable additional plant species to be identified from any regrowth, remaining flowering individuals and the less intensively managed field margins. However, a prolonged period of exceptionally hot, dry weather between the two survey visits resulted in very limited vegetative regrowth, with much of the grassland becoming desiccated and bleached. Consequently, the second survey relied principally on surviving vegetation, persistent diagnostic species and those areas where vegetation had been less intensively managed.

Particular attention was given to the southern part of the paddock and its boundary in view of historical records (1989) of notable grassland plants from the adjoining field to the south of the survey site. None of the recorded species was identified within the application site.

The grassland was assessed as Improved Grassland (Phase 1 B4). Although supporting a modest diversity of common herbaceous species and showing evidence of gradual natural diversification, the sward remained dominated by productive grasses and abundant white clover and did not exhibit the frequency or distribution of indicator species expected of semi-improved grassland.

No significant areas of the site were inaccessible and no survey constraints are considered likely to have materially influenced the conclusions of this report.

As with all Preliminary Ecological Appraisals, the findings represent a snapshot of conditions at the time of survey and cannot guarantee the continued absence of mobile or cryptic species. Should site conditions or development proposals change materially, or should construction not commence within two years of the final survey, the ecological baseline should be reviewed by a suitably qualified ecologist before works proceed.

4. Desk Study

4.1 Overview

A biological records search was obtained from the South East Wales Biodiversity Records Centre (SEWBRc) to provide an understanding of the ecological context surrounding the site and to identify any statutory or non-statutory designated sites, protected species, priority habitats and other ecological features relevant to the proposed development.

The desk study complements, but does not replace, the field survey. Biological records provide evidence of previously recorded species and habitats within the surrounding landscape but do not confirm their continued presence or their occurrence within the application site itself.

The desk study has therefore been interpreted alongside the habitat assessment undertaken during the field surveys.

Customer Reference: Graig Madoc

[PUBLIC]

LERC Reference: 0267-247

Date: 25-Jun-2026 11:19

Search Results Summary

Package B: Priority Species 1km Search for relevant species, designated sites and Phase I habitats within 1km of your location(s)

Species Records	826
Pri. Species	591
Cons. Concern	107
Loc. Important	59
Species Status	69
Invasive Non-Native	69
Species Status	69
Sites	7
Habitats	13

Location

Location Type: Gridref
Details: SS8175382737
Area m²: 3,126,447



4.2 Statutory Designated Sites

The SEWBRc search identified one statutory designated site within the search area.

The principal statutory ecological designation within the wider landscape is associated with the internationally important Cynffig / Kenfig dune and wetland system, together with associated habitats within the Afon Cynffig catchment.

The proposed development is physically separated from these designated habitats by intervening agricultural land, roads and existing development.

No direct habitat loss, hydrological connection or identifiable impact pathway exists between the proposed development and any statutory designated site.

Consequently, significant effects upon statutory designated sites are not anticipated.

4.3 Non-statutory Designated Sites

The SEWBReC desk study identified five non-statutory Sites of Importance for Nature Conservation (SINCs) within the search area:

- **NPT Watercourses SINC**, within which the application site is located;
- **NPT Ancient Semi-Natural Woodland SINC**, approximately 270 m north-west of the site;
- **North-Eastern Dunes SINC**, approximately 480 m south-west;
- **Afon Cynffig SINC**, approximately 250 m west; and
- **St James' Church Wood SINC**, approximately 500 m north-west.

The application site lies within the mapped extent of the NPT Watercourses SINC. However, the ecological interest of this designation relates principally to the wider watercourse corridor and its associated habitats rather than the existing residential curtilage forming the subject of the application. The proposed development is confined almost entirely to existing buildings, hardstanding and intensively managed garden habitats and does not involve direct impacts upon the watercourse or the principal habitats for which the SINC is designated.

The remaining SINCs comprise a variety of semi-natural habitats including woodland, riparian corridors, dunes and associated habitats that contribute to ecological connectivity across the wider landscape.

Although the application site occupies an existing residential property, the mature hedgerows and scattered trees present within the site provide functional links with these wider ecological networks. Their retention therefore forms an important component of the proposed development.

4.4 Priority Habitats and Ecological Networks

The wider landscape surrounding Graig Madoc comprises a well-connected mosaic of agricultural land, mature hedgerows, scattered woodland, gardens and riparian habitats. The Afon Cynffig lies approximately 250 metres west of the site and forms one of the principal ecological corridors within the local landscape.

The application site contributes to this wider network through the presence of:

- mature native-dominated hedgerows;
- scattered mature trees;
- orchard planting;

- structurally diverse domestic gardens;
- rough grassland margins.

These habitats provide opportunities for commuting, dispersal and foraging by a variety of mobile species.

Although the improved grassland itself is of relatively low intrinsic botanical value, it contributes to the wider habitat mosaic and increases the permeability of the landscape for common wildlife. The uncut margins in particular have significant potential as invertebrate habitat, which in turn contributes to foraging potential for local bat and other wildlife populations.

The proposed development is confined largely to the established residential curtilage and is not expected to interrupt these wider ecological connections.

The desk study included historical records of Squinancywort (*Asperula cynanchica*), Common restharrow (*Ononis repens*) and Quaking-grass (*Briza media*) from the field immediately south of the application site. These records date from 1989 and indicate that comparatively species-rich grassland conditions occurred locally at that time. However, the records are almost four decades old and do not confirm that these species or associated grassland conditions remain present within the neighbouring field. Land use and management may have changed substantially during the intervening period.

None of these species was recorded within the application site during the 2026 field surveys. The records have nevertheless been taken into account when assessing the southern boundary in particular, and the botanical character of the improved-grassland paddock in general.

4.5 Protected and Priority Species

The biological records search identified numerous records of protected and priority species within the surrounding landscape.

These records reflect the generally high ecological value of the surrounding countryside rather than indicating ecological constraints within the proposed development footprint.

Each taxonomic group has therefore been considered individually below.

4.5.1 Bats

Numerous bat records occur within the surrounding landscape, including records of pipistrelle species and brown long-eared bat.

Given the abundance of mature hedgerows, trees, woodland and older agricultural buildings within the surrounding countryside, these records are entirely consistent with the landscape context.

The accompanying bat survey confirmed that common pipistrelle bats use the hedgerows, northern end of the garden and adjacent lane for commuting and foraging, while noctule bats forage over fields immediately west of the site.

No evidence of an active roost was identified within the dwelling or garage. The observed flight lines are to the north of proposed development works and will not be impacted.

The principal consideration for the proposed development is therefore the retention of dark commuting corridors rather than protection of a confirmed roost or flight path.

4.5.2 Hedgehog

Hedgehog records were identified within the local area.

The site contains suitable habitat for hedgehogs, particularly within:

- domestic gardens;
- hedgerow margins;
- orchard planting;
- rough vegetation.

Although no evidence of hedgehogs was recorded during the survey, occasional use of the site is considered likely.

Appropriate precautionary working methods and maintenance of habitat connectivity are therefore recommended.

4.5.3 Badger

Badger records occur within the wider landscape.

No badger setts, latrines, paths, hairs or other field signs were identified during either survey visit.

The survey site provides only relatively limited foraging habitat compared with the extensive surrounding agricultural landscape.

Badgers may therefore occasionally traverse the site, but the proposed development is not expected to affect the local population.

4.5.4 Reptiles

The desk study identified local records of common lizard.

Within the application site, the majority of habitats comprise regularly managed improved grassland offering relatively limited suitability for reptiles.

Small areas of increased suitability occur within the bracken stand, unmanaged hedgerow margins and localised disturbed ground.

These habitats are limited in extent and remain well connected to substantially larger areas of similar habitat beyond the site boundaries.

The likelihood of significant impacts upon reptiles is therefore considered low.

4.5.5 Amphibians

Records of common amphibians occur within the wider landscape.

No standing water suitable for amphibian breeding was present within the application site during either survey visit.

The Afon Cynffig is a flowing watercourse and is unsuitable as breeding habitat for great crested newts.

Although common amphibians may occasionally utilise terrestrial habitats within the site, the absence of breeding habitat substantially limits the ecological significance of the site for amphibians.

No further amphibian surveys are considered necessary.

4.5.6 Protected and Priority Species

The surrounding landscape supports a diverse assemblage of breeding and wintering bird species typical of rural South Wales.

Within the site, the mature hedgerows, trees, shrubs and garden habitats provide suitable nesting opportunities for a range of common bird species.

The existing garage and dwelling also provide occasional opportunities for species associated with buildings.

The principal ecological consideration is therefore the protection of active nests during construction rather than permanent habitat loss.

4.5.7 Invasive Non-native Species

Records of Japanese knotweed and Himalayan balsam were identified within the wider Afon Cynffig catchment.

Neither species was recorded during the field surveys.

No invasive non-native plant species were identified within the application site.

Normal biosecurity procedures should nevertheless be followed during construction, and ecological advice sought should invasive species be discovered unexpectedly.

4.6 Summary of Ecological Constraints

The desk study confirms that Graig Madoc is situated within an ecologically well-connected rural landscape supporting a variety of protected species and designated habitats.

However, the proposed development occupies an existing residential property and remains largely confined to previously developed land and intensively managed garden habitats.

Although the application site lies within the mapped extent of the NPT Watercourses SINCE, the proposals are confined to the existing residential curtilage and avoid the principal habitats and ecological features associated with that designation. Consequently, significant effects upon the SINCE are not anticipated.

The principal ecological constraints associated with the proposals relate to:

- protection of mature hedgerows and trees;
- maintenance of bat commuting corridors through sensitive lighting design;
- avoidance of disturbance to nesting birds;
- implementation of precautionary working methods for common wildlife.

The desk study findings are consistent with the habitat assessment undertaken during the field surveys and support the conclusion that, subject to implementation of appropriate mitigation and enhancement measures, the proposed development is capable of proceeding without significant adverse ecological effects.

5. Baseline Ecological Conditions

5.1 Introduction

The proposed development site supports a mosaic of habitats typical of a rural residential property situated within an agricultural landscape. Habitats comprise amenity grassland, a small orchard, improved grassland, intact species-poor hedgerows, bracken stand, introduced ornamental shrub planting, buildings, hardstanding and bare or disturbed ground. Scattered mature and recently planted trees occur within the residential curtilage, orchard and boundary hedgerows.

The majority of the proposed development is confined to the established residential curtilage, including existing buildings, amenity grassland, hardstanding and previously disturbed ground. The principal ecological features of the site comprise the intact boundary hedgerows, mature trees and the associated habitat corridors connecting the property with the surrounding countryside.

Habitats were classified using the JNCC Phase 1 Habitat Survey methodology. Target Notes identify the principal habitats and features shown on the Phase 1 Habitat Plan. Where appropriate, approximate UKHab equivalents are provided for cross-reference only.

5.2 Aerial Image of Survey Site



Figure 1. Aerial imagery of survey site – Google Earth

5.3 Habitat Plan

The Phase 1 Habitat Plan illustrates the principal habitats present during the ecological survey together with Target Notes (TN1–TN10) referred to throughout this section.

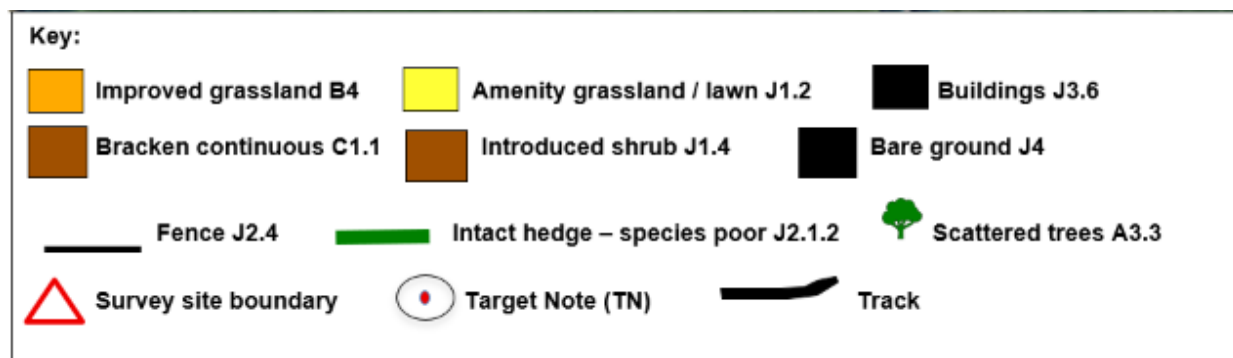
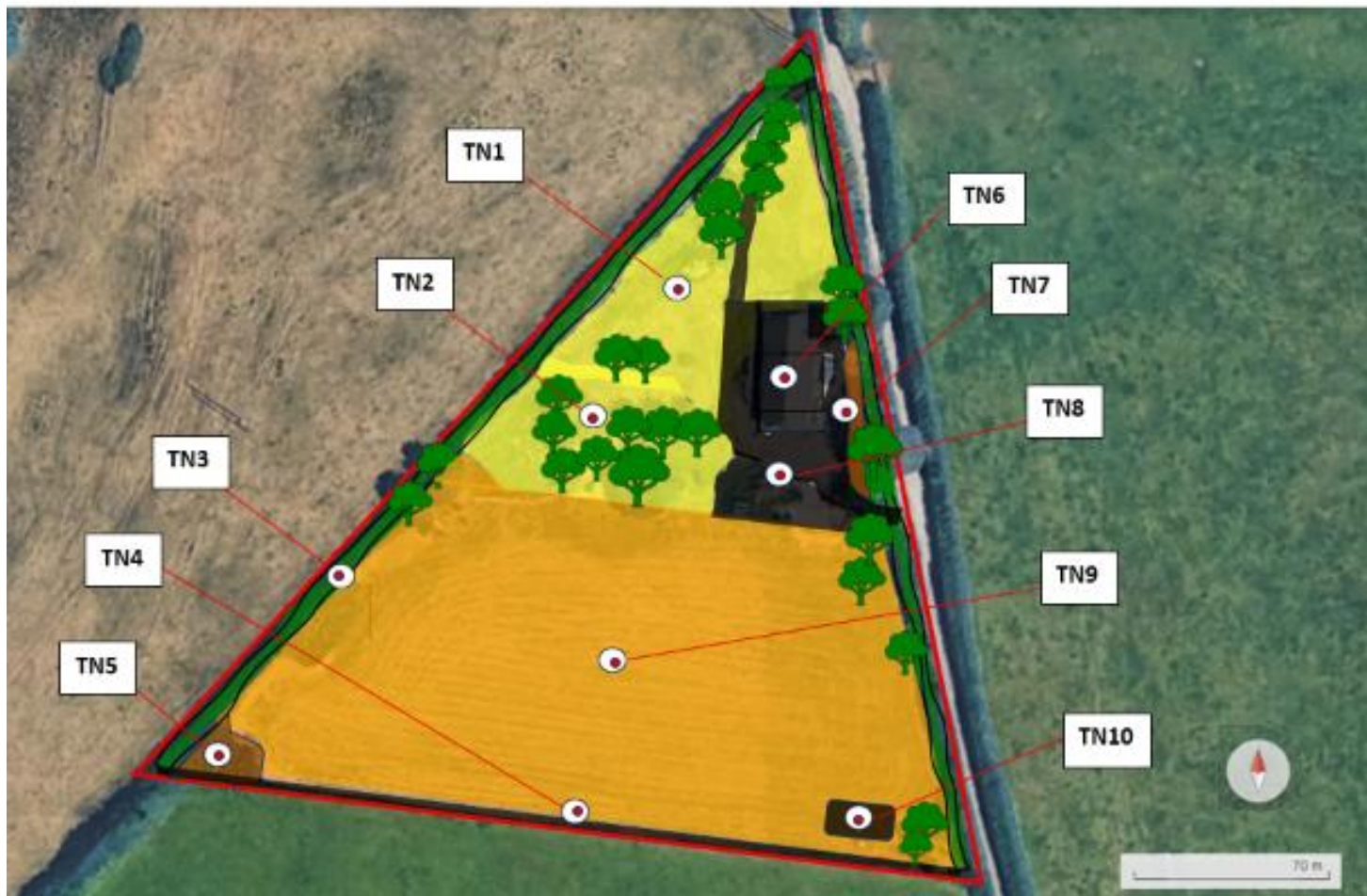


Figure 2. Habitat Plan

5.4 Habitat Summary

Target Note	Phase 1 Habitat	Approximate UKHab Equivalent	Ecological Value
TN1	J1.2 Amenity Grassland	Modified grassland / vegetated garden	Site
TN2	Small, young orchard over amenity grassland, with scattered fruit trees	Orchard trees over modified grassland	Site
TN3	J2.1.2 Intact Hedge – Species-poor	Native hedgerow	Local
TN4	J2.4 Fence	Boundary feature	Negligible
TN5	C1.1 Continuous Bracken	Bracken	Site
TN6	J3.6 Buildings – main residence	Developed land; buildings	Negligible intrinsic value
TN7	J1.4 Introduced Shrub	Introduced shrub / vegetated garden	Site
TN8	J4 Bare Ground / Hardstanding	Artificial unvegetated surface	Negligible–Site
TN9	B4 Improved Grassland	Modified grassland	Site
TN10	Chicken coop and associated enclosure	Small building and domestic animal enclosure	Negligible intrinsic value

Additional mapped features: scattered broadleaved and ornamental trees are shown using Phase 1 tree symbols. Mature specimens are assessed as being of Local ecological value, while recently planted trees are assessed as being of Site-level value with potential to increase as they mature.

5.5 TN1 – Amenity Grassland (Phase 1 J1.2)

Amenity grassland occurs within the residential curtilage surrounding and immediately west and north of the dwelling. The habitat is maintained through regular mowing and supports a short, relatively uniform sward characteristic of domestic lawn and intensively managed garden grassland.

The sward is dominated by common grasses and widespread lawn herbs. Its regular management limits structural and botanical diversity, although the habitat contributes to the overall permeability and vegetated character of the residential curtilage.

The amenity grassland beneath and around the young orchard is mapped as the underlying habitat, with the fruit trees represented separately as scattered trees and described under TN2.

Amenity grassland is widespread and readily replaceable. Its intrinsic botanical value is low, although it provides limited foraging opportunities for common birds and invertebrates and may be crossed by hedgehogs and other terrestrial wildlife.

Ecological value is assessed as **Site**.

5.6 TN2 – Small Orchard

A small young orchard comprising some older and recently planted apple and plum trees occupies the amenity grassland immediately west of the dwelling. The orchard is regularly mown, with only small patches of longer vegetation retained around some of the tree bases. It has therefore been mapped as scattered fruit trees over Amenity Grassland rather than as a separate orchard habitat polygon.

Although the orchard includes a small number of older trees, most of the planting is relatively recent and the feature does not meet the definition of traditional orchard Priority Habitat.

The orchard is expected to provide progressively greater:

- blossom resources for pollinating insects;
- fruit for birds, mammals and invertebrates;
- structural diversity within the garden;
- nesting and perching opportunities for birds; and
- foraging opportunities for bats.

The orchard should be retained and managed sympathetically. Its ecological value is currently assessed as **Site**, with clear potential to increase over time.

5.7 TN3 – Intact Species-poor Hedgerows (Phase 1 J2.1.2)

The eastern and western boundaries support intact, mature hedgerows which converge towards the northern end of the property. A single Target Note is used to describe both boundary hedgerows because they are broadly comparable in character and ecological function.

Woody species recorded within the hedgerows include:

- goat willow;
- hawthorn;
- hazel;
- holly;
- elder;
- bird cherry;
- pedunculate oak;
- ash;
- rowan;
- sycamore

Bramble and ivy also occur within and beneath the hedge structure.

Although a range of woody species occurs across the boundaries as a whole, the survey did not demonstrate the consistent frequency of native woody species within representative 30 m

lengths required to classify the hedgerows as species-rich. They are therefore appropriately classified as J2.1.2 Intact Hedge – Species-poor.

The term “species-poor” relates specifically to the Phase 1 botanical classification and does not imply that the hedgerows are of little ecological value. They are structurally mature, largely continuous and form the principal ecological corridors within the site.

The hedgerows provide:

- nesting and foraging habitat for birds;
- shelter and movement corridors for hedgehogs and other mammals;
- habitat for common invertebrates;
- connectivity with the surrounding agricultural landscape; and
- commuting and foraging corridors for bats.

The accompanying bat surveys confirmed common pipistrelle activity along both boundaries. Occasional mature trees within the hedgerows are shown individually on the habitat plan rather than classifying the entire boundaries as hedgerows with trees.

No hedgerow removal is proposed. Their retention is one of the principal avoidance measures incorporated into the development design.

Ecological value is assessed as **Local**.

5.8 TN4 – South Boundary Fence (Phase 1 J2.4)

The southern boundary comprises post-and-wire / Rylock fencing and does not support a continuous hedgerow.

The fence has negligible intrinsic ecological value. However, its relatively open construction allows the movement of small mammals and other terrestrial wildlife between the site and the adjoining agricultural land.

The boundary should remain permeable to wildlife where practicable. Should any replacement fencing be installed, unnecessary use of solid, impermeable fencing should be avoided or suitable ground-level wildlife access incorporated.

Ecological value is assessed as **Negligible**, although the boundary retains a minor functional role in maintaining permeability with adjacent land.

5.9 TN5 – Bracken (Phase 1 C1.1)

A stand of continuous bracken occurs in the south-western part of the paddock and extends locally along the western boundary.

The vegetation is dominated by bracken and forms a taller and more structurally complex habitat than the surrounding improved grassland. It provides localised cover and refuge opportunities for common invertebrates, amphibians, reptiles and small mammals.

The stand is limited in extent and is connected to larger areas of rough vegetation and boundary habitat outside the site. It is not of particular botanical interest but contributes positively to habitat structure and heterogeneity.

Where any bracken or associated rough vegetation is affected by the works, clearance should be undertaken cautiously and progressively towards retained habitat.

Ecological value is assessed as **Site**.

5.10 TN6 – Buildings (Phase 1 J3.6)

The site contains the main dwelling and associated detached garage. These features are mapped as Buildings under Phase 1 code J3.6.

Buildings possess negligible intrinsic habitat value but may acquire ecological importance where they support nesting birds or roosting bats.

The dwelling and garage were subject to a separate bat assessment. The dwelling was assessed as having moderate suitability for roosting bats and two dusk emergence surveys were subsequently completed. No bats were observed emerging from or re-entering either building and no evidence of an active bat roost was identified.

The findings and recommendations of the accompanying Spectrum Ecology Bat Survey Report should be implemented in full.

The buildings are assessed as being of **Negligible intrinsic ecological value**, while their potential use by protected species has been considered separately.

5.11 TN7 – Introduced Shrub (Phase 1 J1.4)

Introduced ornamental shrub planting occurs beside the driveway and parking area within the residential curtilage. The planting comprises established non-native and ornamental shrubs, including species such as:

- red-osier dogwood;
- wedding-cake tree;
- false holly;
- lilac;
- New Zealand privet.

The planting is domestic and deliberately established but provides some ecological function through the provision of flowers, foliage, shelter and structural cover.

The shrubs may provide nectar and pollen resources for common invertebrates, foraging opportunities for birds and potential nesting habitat where vegetation is sufficiently dense. Any removal should therefore take account of the potential presence of active bird nests.

The habitat is limited in extent and supports predominantly common ornamental species.

Ecological value is assessed as **Site**.

5.12 TN8 – Bare Ground and Hardstanding (Phase 1 J4)

Areas of crushed stone, compacted ground, paving and driveway surround the dwelling and provide vehicle access and parking. The mapped habitat also includes localised disturbed or unvegetated ground around a shipping container and associated working or storage areas. At the time of survey, this area was in active use as a working and storage area and was subject to ongoing disturbance. Bare ground and hardstanding therefore provide the most appropriate Phase 1 classification.

Most of this habitat supports little or no vegetation and is of negligible intrinsic ecological value. Small areas of less compacted or disturbed substrate support sparse ephemeral and ruderal vegetation.

Stored materials, rubble, scrap, loose stone and undisturbed margins around the shipping container could provide temporary refuge opportunities for common amphibians, reptiles, hedgehogs and other small wildlife. Such materials should therefore be checked and moved cautiously where they are affected by construction.

The existing hardstanding and disturbed-ground envelope provides the principal location for construction access, storage and activity, thereby reducing the need to encroach upon more ecologically valuable habitats.

Ecological value is assessed as Negligible for sealed and heavily compacted surfaces and up to Site level for localised disturbed margins or refuge features.

5.13 TN9 – Improved Grassland (Phase 1 B4)

The majority of the southern and central parts of the site comprise Improved Grassland, classified as Phase 1 B4.

The paddock is subject to regular topping, producing a broadly uniform, grass-dominated sward. Principal grasses recorded include perennial rye-grass (*Lolium perenne*); Yorkshire-fog (*Holcus lanatus*); cock's-foot (*Dactylis glomerata*) and timothy (*Phleum pratense*).

White clover (*Trifolium repens*) is abundant across much of the field and forms a conspicuous component of the sward.

Common herbaceous species recorded within the grassland and its margins include:

- ribwort plantain;
- daisy;
- common sorrel;
- creeping buttercup;
- bulbous buttercup;
- oxeye daisy;
- common knapweed;
- purple vetch;
- red campion;
- ground-ivy;
- broad-leaved willowherb;
- silverweed;
- wood avens;
- foxglove;
- common ragwort;
- creeping thistle;
- occasional red clover.

These species are unevenly distributed. Most occur as scattered individuals or are concentrated within less intensively managed margins and beneath boundary vegetation rather than occurring consistently throughout the main sward.

The majority of the paddock is dominated by common productive and coarse grasses. Although the sward has undergone some natural diversification following reduced management, particularly around field margins, the habitat remains characteristic of improved pasture and is appropriately classified as Phase 1 B4 Improved Grassland.

The combination of productive grasses, abundant white clover, regular topping and the limited frequency and distribution of neutral-grassland indicator species means that the habitat does not meet the criteria for classification as semi-improved grassland.

The presence of scattered common knapweed, oxeye daisy, purple vetch, red clover and other herbs nevertheless indicates potential for further botanical diversification under sympathetic management. This could be encouraged through reduced cutting frequency, removal of arisings and retention of wider uncut or less frequently cut margins.

The SEWBReC data search showed historical biological records for Squinancywort (*Asperula cynanchica*), Common restharrow (*Ononis repens*) and Quaking-grass (*Briza media*) in the neighbouring field immediately south of the site. These records date from 1989 and suggest that more botanically diverse grassland occurred locally at that time.

None of these species was recorded within TN9 during the 2026 surveys, including within the southern field margin. The age and off-site location of the records mean that they do not alter the observed classification of the paddock. Nevertheless, they indicate some local potential for grassland restoration and reinforce the value of sympathetic future management, particularly along the southern and boundary margins.

The ecological importance of the paddock derives principally from its contribution to the overall habitat mosaic and its relationship with the adjoining hedgerows and scattered trees rather than from exceptional intrinsic botanical interest.

Ecological value is assessed as **Site**.

5.14 TN10 – Chicken Coop

A small chicken coop and associated domestic poultry enclosure are present close to the south-eastern corner of the site.

The coop is a small artificial structure of negligible intrinsic habitat value. Depending on its construction and condition, it may provide occasional shelter for common invertebrates, small mammals or nesting birds, although no evidence of protected or notable species was identified during the survey.

The associated enclosure comprises intensively disturbed ground and locally nutrient-enriched vegetation resulting from poultry use. It does not represent a habitat of substantive botanical value.

Should the coop or associated stored materials require removal or relocation, they should be inspected immediately beforehand for nesting birds, hedgehogs and other sheltering wildlife. Where the structure is to remain unaffected, no specific ecological measures are required.

Ecological value is assessed as **Negligible intrinsic value**, with limited potential for occasional use by common wildlife.

5.15 Scattered Trees

Scattered mature, semi-mature and recently planted trees occur within the residential curtilage, young orchard and boundary hedgerows. These are shown individually on the Phase 1 Habitat Plan using broadleaved-tree symbols where their scale and position allow.

Principal mature or established specimens include pedunculate oak (*Quercus robur*), white poplar (*Populus alba*) and sycamore (*Acer pseudoplatanus*). Recently planted trees include fruit trees, birch (*Betula* spp.), white poplar and olive (*Olea europaea*).

The mature trees provide structural diversity, landscape continuity and opportunities for nesting birds, invertebrates and foraging bats. The mature oak is of particular ecological interest

because of its size, longevity and potential to support associated invertebrate and epiphytic communities.

No mature trees are proposed for removal under the current application. Mature trees are assessed as being of **Local ecological value**, while young and recently planted trees are assessed as being of **Site-level value** with potential to increase as they mature.

5.16 Habitat Evaluation Summary

The site supports a varied mosaic of habitats characteristic of a rural residential property situated within an agricultural landscape.

The majority of the proposed development footprint comprises habitats of relatively low intrinsic ecological value, including existing buildings, amenity grassland, introduced shrub planting, hardstanding and bare or disturbed ground.

The principal ecological resources comprise the intact eastern and western boundary hedgerows, mature trees and the habitat corridors that they form with the surrounding countryside. Although classified as species-poor under the Phase 1 methodology, the hedgerows are mature, structurally valuable and perform important nesting, foraging, commuting and connectivity functions.

The improved grassland is classified as Phase 1 B4. It supports a modest diversity of common herbs, particularly along less intensively managed margins, but remains dominated by productive grasses and abundant white clover and is regularly topped. Its principal ecological value lies in its contribution to the wider habitat mosaic and its potential for enhancement through sympathetic future management.

The young orchard, bracken, introduced shrubs and scattered trees add structural diversity and provide resources for common birds, invertebrates, small mammals and foraging bats.

Taken together, the habitats form a coherent local ecological network. The proposed development has been designed to retain the principal hedgerows, mature trees and wider habitat connections, substantially reducing the likelihood of significant adverse ecological effects.

6. Protected and Notable Species Assessment

6.1 Introduction

The potential for the survey site to support protected and notable species was assessed through a combination of desk study information, habitat suitability assessment, direct field observations and evidence gathered during the accompanying bat survey.

The assessment has considered both the intrinsic suitability of habitats within the application site and their relationship with the surrounding landscape. The absence of evidence of a protected species during a walkover survey cannot be regarded as conclusive evidence of absence; however, where habitats are of limited suitability and no evidence was recorded, professional judgement has been applied to determine whether further survey is necessary and proportionate.

The following species groups have been considered:

- Bats
- Breeding birds
- Hedgehog
- Badger
- Reptiles
- Amphibians (including great crested newt)
- Dormouse
- Otter
- Water vole
- Invertebrates
- Invasive non-native plant species

6.2 Bats

Roosting Bats

A separate bat survey has been undertaken in accordance with current Bat Conservation Trust guidance and should be read alongside this report.

The Preliminary Roost Assessment identified the dwelling as offering moderate suitability for roosting bats, owing to the presence of features capable of supporting crevice-dwelling species and the suitability of the surrounding habitats.

Two dusk emergence surveys were subsequently undertaken.

No bats were observed emerging from or re-entering either the dwelling or garage during the surveys, and no evidence of a bat roost was identified.

On the basis of these findings, the buildings are not considered to support a roost requiring licensing under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

provided that works proceed broadly as proposed and the recommendations contained within the bat report are implemented.

Several mature trees within the site possess minor features that may provide low levels of roosting potential. However, no arboricultural works form part of the current proposals. Should future tree surgery or felling be proposed, these trees should be reassessed before works commence.

Commuting and Foraging Bats

Bat activity surveys demonstrated that the site forms part of a wider bat foraging landscape.

Common pipistrelle (*Pipistrellus pipistrellus*) activity was recorded along the eastern and western hedgerows, around the garden and along the adjacent access lane. These habitats clearly function as linear commuting and foraging corridors.

Noctule (*Nyctalus noctula*) bats were also recorded foraging over fields immediately west of the site.

The mature hedgerows and scattered trees therefore represent the principal bat resource associated with the application site.

The proposed development avoids these features and no interruption of established commuting routes is anticipated.

The principal potential impact relates to increased artificial lighting.

Provided external lighting is carefully designed to maintain dark corridors along retained hedgerows and mature trees, significant impacts upon local bat activity are not anticipated.

Evaluation

The application site contributes to a wider bat commuting network but does not support a confirmed bat roost.

No further bat surveys are considered necessary.

The recommendations contained within the accompanying bat report should be implemented in full.

6.3 Breeding Birds

The site provides suitable nesting habitat for a range of common breeding birds.

Suitable nesting opportunities occur within:

- mature hedgerows;
- scattered trees;
- introduced ornamental shrub planting, including TN7;
- bramble;
- ivy;
- the orchard;
- the existing garage;
- parts of the dwelling.

Although no active nests were recorded during the survey visits, the timing of the surveys and the nature of the habitats indicate that breeding birds are likely to use the site annually.

All wild birds, their active nests and dependent young receive protection under Section 1 of the Wildlife and Countryside Act 1981 (as amended).

Vegetation clearance should therefore be undertaken outside the principal bird nesting season (March to August inclusive) wherever reasonably practicable.

Where this cannot be achieved, all vegetation requiring removal should first be inspected by a suitably qualified ecologist no more than 48 hours before works commence.

Provided these precautions are followed, significant impacts upon breeding birds are unlikely.

6.4 Hedgehog

Hedgehog records occur within the surrounding landscape and the site contains a range of habitats suitable for occasional use.

Particularly suitable habitats and features include:

- hedgerow bases and margins;
- continuous bracken;
- introduced ornamental shrub planting;
- the young orchard;
- longer grassland margins;
- the chicken coop and associated enclosure; and
- areas beneath stored materials around the hardstanding and disturbed-ground envelope.

No evidence of hedgehogs was identified during either survey visit.

Nevertheless, the site forms part of a wider permeable rural landscape in which occasional use is considered likely.

Potential impacts principally relate to:

- excavation;
- movement of stored materials;
- vegetation clearance;
- temporary entrapment.

These risks can readily be avoided through straightforward precautionary working methods.

Retention of habitat connectivity and provision of hedgehog access gaps beneath any new boundary fencing would provide an additional biodiversity enhancement.

No further survey is considered necessary.

6.5 Badger

Badgers are widespread throughout rural South Wales and records occur within the wider search area.

The surrounding agricultural landscape provides suitable foraging habitat.

During the field surveys no evidence of badger activity was identified within the application site.

No:

- setts;
- latrines;
- dung pits;
- footprints;
- hairs;
- well-used paths;

were recorded.

The proposed development is confined to an existing residential curtilage and is unlikely to affect badger territories or movement routes.

No further survey is considered necessary.

Should evidence of badgers be discovered during construction, works should cease and ecological advice sought before continuing.

6.6 Reptiles

The biological records search identified records of common lizard within the wider landscape.

Within the application site, the majority of habitats comprise regularly managed Improved Grassland (TN9), Amenity Grassland (TN1), buildings and hardstanding. These habitats offer relatively limited suitability for reptiles because of regular vegetation management, relatively uniform sward structure and limited refuge and basking opportunities.

Areas of comparatively greater suitability occur within the continuous bracken stand (TN5), hedgerow margins associated with TN3 and localised loose material or disturbed ground within TN8. The chicken-coop area may also provide limited shelter opportunities around the base of the structure or beneath associated materials.

These habitats are, however, small in extent and remain well connected to substantially larger areas of similar habitat beyond the site boundary.

Consequently, while occasional reptiles cannot be discounted, the application site is unlikely to support an ecologically important population.

The proposed development avoids most of these habitats and is concentrated within the existing domestic curtilage.

Where vegetation clearance affects rough margins or bracken, works should proceed using a staged directional clearance towards retained habitat under ecological supervision if necessary.

Subject to implementation of these measures, significant impacts upon reptiles are not anticipated.

No further survey is considered proportionate.

6.7 Amphibians

Records of common amphibians occur within the wider landscape.

No standing water suitable for amphibian breeding was present within the application site during either survey visit.

The wildlife pond illustrated on the proposed plans represents a future biodiversity enhancement and was not present at the time of survey.

The nearest significant aquatic feature is the Afon Cynffig approximately 250 metres west of the site.

As a flowing watercourse it does not provide suitable breeding habitat for great crested newts.

The terrestrial habitats within the site could occasionally be used by common amphibians for foraging or dispersal.

However, given the absence of breeding habitat and the small scale of the proposals, significant impacts are considered unlikely.

Precautionary working methods during vegetation clearance and excavation are considered sufficient.

No further amphibian surveys are recommended.

6.8 Dormouse

Dormice are associated with well-connected, structurally diverse woodland and hedgerow systems containing abundant woody food resources.

Although the hedgerows provide potentially suitable woody habitat, they connect into a landscape dominated by improved agricultural land. No removal or fragmentation is proposed and no desk-study records indicate likely presence within or immediately adjoining the site. The development footprint is separated from the boundary hedgerows, and no effect on any potential dormouse habitat is anticipated.

Accordingly, the likelihood of dormouse presence is considered low and no further survey is warranted.

6.9 Otter and Water Vole

The Afon Cynffig lies approximately 250 metres west of the application site and provides suitable habitat for otter.

No watercourses, ditches or wetland habitats occur within the application site itself.

Consequently, there is no direct pathway through which the proposed development could affect either otter or water vole.

Good pollution prevention measures should nevertheless be implemented during construction to prevent contamination of surrounding land and downstream watercourses.

No further survey is required.

6.10 Invertebrates

The site supports a range of habitats providing resources for common invertebrates, including:

- flowering herbs within the improved grassland;

- intact hedgerows;
- mature and young trees;
- orchard blossom and fruit;
- introduced ornamental shrubs;
- bracken stands;
- deadwood; and
- sparse ephemeral vegetation within disturbed-ground margins.

Although no habitats of particular importance for rare or specialist invertebrates were identified, these features collectively contribute to the ecological functioning of the site.

The proposed biodiversity enhancements, particularly the wildlife pond, increased native planting and more varied grassland management, would substantially increase invertebrate resources over time.

6.11 Invasive Non-native Plant Species

The desk study identified records of Japanese knotweed and Himalayan balsam within the wider Afon Cynffig catchment.

Neither species was recorded during the field surveys.

No invasive non-native plant species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were identified within the application site.

Should any such species be discovered during construction, works within the affected area should cease until appropriate ecological advice has been obtained.

6.12 Summary of Protected Species Assessment

Species Group	Likelihood of Presence	Further Survey Required	Principal Recommendation
Bats (roosting)	Low (following bat surveys)	No	Follow separate bat report and maintain sensitive lighting
Bats (commuting/foraging)	Confirmed	No	Retain dark hedgerow corridors and mature trees
Breeding birds	High (seasonally)	No	Timing restrictions or pre-clearance nest checks
Hedgehog	Moderate	No	Precautionary construction

Species Group	Likelihood of Presence	Further Survey Required	Principal Recommendation
			methods and maintain permeability
Badger	Low	No	Precautionary measures if evidence discovered
Reptiles	Low	No	Staged clearance where rough vegetation is affected
Amphibians	Low	No	Precautionary vegetation clearance
Dormouse	Low	No	Retain existing hedgerows
Otter / Water vole	Negligible	No	Standard pollution prevention measures
Invertebrates	Moderate (common species)	No	Deliver proposed habitat enhancements
Invasive species	Not recorded	No	Biosecurity and stop-work if discovered

7. Ecological Evaluation and Assessment of Effects

7.1 Introduction

This section evaluates the ecological importance of the habitats and species identified during the desk study and field surveys, assesses the likely effects of the proposed development and considers those effects within the context of current planning policy and accepted ecological assessment principles.

The evaluation follows the approach advocated by the Chartered Institute of Ecology and Environmental Management (CIEEM), recognising that ecological value is determined not only by the intrinsic quality of individual habitats but also by their contribution to wider ecological networks and ecosystem resilience.

In accordance with Planning Policy Wales (Edition 12), the assessment also considers the Step-wise Approach and the principles of ecosystem resilience described within the Environment (Wales) Act 2016.

7.2 Ecological Feature Evaluation

The ecological importance of habitats and ecological features identified within the application site has been evaluated using professional judgement, taking account of their condition, rarity, connectivity, functionality and contribution to the surrounding landscape.

Ecological Feature	Value	Rationale
Buildings – dwelling and garage (TN6)	Negligible intrinsic value	Artificial structures of negligible intrinsic habitat value. Separate bat surveys found no evidence of an active roost.
Amenity Grassland (TN1)	Site	Intensively managed grassland with limited botanical and structural diversity, but forming part of the vegetated residential curtilage.
Young orchard (TN2)	Site	Recently established fruit trees providing developing blossom, fruit and structural resources, with increasing future ecological value.

Ecological Feature	Value	Rationale
Intact Species-poor Hedgerows (TN3)	Local	Principal ecological corridors within the site, providing commuting, nesting, foraging and connectivity functions.
Southern boundary fence (TN4)	Negligible	Artificial boundary feature of negligible intrinsic value, although its open construction maintains permeability for wildlife.
Continuous Bracken (TN5)	Site	Provides local structural diversity, cover and refuge habitat.
Introduced Shrub (TN7)	Site	Ornamental planting providing flowers, cover and potential nesting opportunities for common species.
Bare Ground and Hardstanding (TN8)	Negligible–Site	Compacted surfaces have negligible value; localised loose material and disturbed margins provide limited refuge opportunities.
Improved Grassland (TN9)	Site	Productive grassland with modest and uneven botanical diversity. Value derives mainly from its contribution to the wider habitat mosaic and its enhancement potential.
Chicken coop and associated enclosure (TN10)	Negligible intrinsic value	Small artificial structure and intensively disturbed poultry enclosure, with limited potential for occasional use by common wildlife.

Ecological Feature	Value	Rationale
Mature scattered and hedgerow trees	Local	Provide structural habitat for birds, bats and invertebrates and strengthen ecological connectivity.
Recently planted and orchard trees	Site	Currently limited in maturity but expected to increase in ecological value over time.

No habitats of National or International ecological importance occur within the application site.

7.3 Assessment Against the DECCA Principles

Section 6 of the Environment (Wales) Act 2016 requires consideration of ecosystem resilience through the DECCA principles.

Diversity:

The site supports a modest diversity of habitats characteristic of a rural residential property, including improved and amenity grassland, intact hedgerows, scattered trees, a young orchard, introduced ornamental shrubs, continuous bracken and areas of bare ground and hard-standing.

Although none of these habitats is individually exceptional, together they create a heterogeneous habitat mosaic supporting a range of common wildlife.

The proposed biodiversity enhancements would further increase habitat diversity through the introduction of a wildlife pond, additional native planting and integrated wildlife features.

Overall effect: **Positive.**

Extent:

The proposals involve relatively limited habitat loss or alteration, confined principally to existing amenity grassland, buildings, hardstanding, bare or disturbed ground and, where applicable, a small area of improved grassland.

The mature hedgerows, mature trees and wider habitat network remain intact.

Overall habitat extent within the wider landscape will therefore be maintained.

Overall effect: **Neutral.**

Condition:

The condition of the site's principal ecological features is generally good.

The mature hedgerows remain structurally intact and continue to function as wildlife corridors.

The improved grassland, whilst agriculturally improved, exhibits evidence of gradual natural diversification.

Implementation of the recommended management measures would improve habitat condition over time.

Overall effect: **Positive.**

Connectivity:

Ecological connectivity represents one of the principal strengths of the site.

The eastern and western hedgerows link directly into the wider agricultural landscape and provide established commuting routes for bats together with movement corridors for birds and terrestrial mammals.

Retention of these features ensures that ecological connectivity is maintained throughout construction and operation.

Sensitive lighting design will further protect these functions.

Overall effect: **Neutral to Positive.**

Adaptability:

The proposed biodiversity enhancements increase the site's capacity to adapt to future environmental change.

The proposed wildlife pond, maturing orchard, native planting and improved grassland management will diversify habitat structure and increase ecological resilience.

These measures improve the site's ability to support wildlife under changing climatic conditions.

Overall effect: **Positive.**

7.4 Application of the Step-wise Approach

Planning Policy Wales requires ecological impacts to be addressed sequentially through the Step-wise Approach.

The proposed development demonstrates compliance as follows.

Step 1 – Avoid

The development has been designed to avoid the site's principal ecological features.

No mature hedgerows require removal.

No mature trees require removal.

The proposals remain largely within the existing residential curtilage.

Step 2 – Minimise

Potential impacts have been minimised by:

- retaining existing habitat corridors;
 - restricting construction to previously developed areas where possible;
 - avoiding unnecessary vegetation clearance;
 - maintaining dark corridors for commuting bats;
 - implementing timing restrictions for vegetation removal.
-

Step 3 – Mitigate

Mitigation measures include:

- precautionary working methods for protected species;
 - protection of retained trees and hedgerows;
 - sensitive external lighting design;
 - pollution prevention measures during construction;
 - ecological supervision where appropriate.
-

Step 4 – Compensate

No significant residual habitat losses have been identified.

Compensatory habitat creation is therefore not required.

Step 5 – Biodiversity Enhancement

The proposals include opportunities to secure measurable biodiversity enhancement through:

- creation of a wildlife pond;
- installation of integrated bat and bird boxes;
- hedgehog permeability;
- native species planting;
- sympathetic grassland management;
- retention of mature ecological corridors.

These measures contribute positively towards Planning Policy Wales and the biodiversity duty under Section 6 of the Environment (Wales) Act.

7.5 Assessment of Likely Ecological Effects

Construction Phase

Potential ecological effects during construction include:

- temporary disturbance associated with construction activity;
- limited loss or disturbance of amenity grassland, introduced shrub planting, hard-standing, bare ground and potentially a small area of improved grassland; disturbance to common wildlife;
- risk of accidental damage to retained vegetation.

These effects are localised, temporary and readily controlled through implementation of the recommendations contained within this report.

No significant adverse ecological effects are anticipated.

Operational Phase

Following completion, the site will continue to function as a residential property within the surrounding rural landscape.

The principal ecological resources, including mature hedgerows and mature trees, will remain intact.

The proposed biodiversity enhancements are expected to increase habitat diversity and ecological resilience over time.

Long-term operational effects are therefore anticipated to be neutral or beneficial.

7.6 Residual Effects

Following implementation of the recommended mitigation and enhancement measures:

- no significant adverse effects upon protected species are anticipated;
- no significant adverse effects upon ecological connectivity are anticipated;
- no significant adverse effects upon designated sites are anticipated;
- no significant residual ecological effects are predicted.

Conversely, the proposed enhancement measures are expected to deliver a modest but meaningful improvement in habitat diversity and ecological functionality.

The overall residual ecological effect of the development is therefore assessed as:

Slight Beneficial (at the site level)

7.7 Summary

The application site supports a range of common habitats characteristic of a rural residential property. The principal ecological interest lies in the mature hedgerows and scattered trees that connect the site to the wider countryside.

The proposed development has been designed to avoid these key features and complies with the Step-wise Approach set out in Planning Policy Wales. Subject to the implementation of the mitigation and enhancement measures described within this report, the proposals are not expected to give rise to significant adverse ecological effects.

Furthermore, the proposed wildlife pond, integrated wildlife features, native planting and sympathetic habitat management provide opportunities to strengthen ecological connectivity and improve biodiversity within the site. These measures contribute positively to ecosystem resilience and the delivery of biodiversity enhancement, consistent with the objectives of Planning Policy Wales (Edition 12) and the Environment (Wales) Act 2016.

8. Biodiversity Protection, Mitigation and Enhancement Strategy

8.1 Introduction

The proposed development has been designed to minimise ecological impacts by retaining the principal ecological features of the site and incorporating opportunities for biodiversity enhancement.

The recommendations below follow the Step-wise Approach set out in Planning Policy Wales (Edition 12), seeking first to avoid impacts, then minimise and mitigate any unavoidable effects before securing measurable biodiversity enhancements.

Provided these recommendations are implemented, no significant adverse ecological effects are anticipated.

8.2 Protection of Retained Habitats

The intact boundary hedgerows, mature trees and young orchard represent the principal retained ecological resources within the proposed development site and should be protected throughout construction.

Prior to commencement of works:

- retained trees and hedgerows should be clearly identified on site;
- construction materials should not be stored beneath tree canopies;
- no excavation, fires, cement washout or chemical storage should occur within the root protection areas of retained trees;
- retained vegetation should be protected from accidental damage throughout construction.

Should any additional tree works become necessary, ecological advice should first be sought to confirm that no new ecological constraints have arisen

8.3 Bats

The recommendations contained within the accompanying Spectrum Ecology Bat Survey Report should be implemented in full.

In particular:

- retained hedgerows should remain unlit wherever practicable;
- any new external lighting should be directed away from mature hedgerows, mature trees and potential commuting corridors;
- warm white luminaires (preferably ≤ 2700 K) should be used where external lighting is required;
- lighting should be kept to the minimum required for safety and security.

These measures will maintain the dark corridors used by commuting and foraging bats.

8.4 Nesting Birds

Vegetation clearance should, wherever reasonably practicable, be undertaken outside the principal bird nesting season (March to August inclusive).

Where this is not possible:

- all vegetation to be removed should first be inspected by a suitably qualified ecologist no more than 48 hours prior to clearance;
- if an active nest is discovered, an exclusion zone should be established and retained until the young have fledged naturally.

These measures will ensure compliance with the Wildlife and Countryside Act 1981 (as amended).

8.5 Precautionary Measures for Common Wildlife

Although no evidence of protected terrestrial mammals, reptiles or amphibians was recorded during the surveys, common wildlife may occasionally utilise the site.

Accordingly:

- long vegetation should be cut progressively towards retained habitat;
- piles of timber, rubble or other stored materials should be carefully inspected before removal;
- any open excavations left overnight should either incorporate a shallow escape ramp or be securely covered;
- should any protected species be encountered unexpectedly, works should cease immediately within the affected area and ecological advice sought before continuing.

8.6 Pollution Prevention

Good construction practice should be employed throughout the development to avoid accidental impacts upon surrounding habitats.

Measures should include:

- appropriate storage of fuels and chemicals;
- immediate containment and clean-up of any spillages;
- prevention of cement washout entering adjacent vegetation;
- appropriate management of surface water during construction;
- avoidance of unnecessary dust generation.

These measures will reduce the risk of indirect impacts upon surrounding habitats and ecological networks.

8.7 Biodiversity Enhancements

The proposals present several opportunities to secure biodiversity enhancement in accordance with Planning Policy Wales and the Environment (Wales) Act 2016.

Wildlife Pond:

The proposed wildlife pond represents the single most significant biodiversity enhancement associated with the development.

If designed with gently sloping margins, varying water depths and native aquatic vegetation, it will provide valuable habitat for:

- aquatic invertebrates;
- amphibians;
- birds;
- bats;
- other wildlife.

The pond should avoid ornamental fish and be planted using native or non-invasive aquatic species typical of south Wales.

Native Planting:

Where new planting is proposed, native species of local provenance should be used wherever practicable.

Suitable species include:

- hawthorn;
- hazel;
- field maple;
- dog rose;
- holly.

Native flowering species will provide additional nectar, fruit and structural diversity.

Orchard Management

The small orchard should be retained and managed sympathetically.

Long-term ecological value would be increased by:

- reducing mowing beneath fruit trees;
- allowing a species-rich grassland to develop;

- retaining fallen fruit where appropriate for wildlife;
- avoiding unnecessary pesticide use.

As the orchard matures it will become an increasingly valuable ecological resource.

Grassland Management

The existing improved grassland has already begun to show signs of gradual botanical diversification.

Its ecological value could be enhanced through relatively modest changes in management.

Recommended measures include:

- reducing cutting frequency where compatible with the intended use of the paddock;
- removing cuttings following mowing to reduce soil fertility;
- avoiding routine fertiliser application;
- retaining occasional rough grassland margins adjacent to hedgerows.

Although currently classified as Phase 1 B4 Improved Grassland, these measures would encourage the continued establishment of native grassland herbs over time.

Integrated Bird and Bat Features

The development provides an opportunity to incorporate integrated wildlife features within the completed buildings.

Subject to detailed design, suitable measures could include:

- one integrated bat roost unit (e.g. built-in bat brick or tube);
- two integrated bird nesting boxes suitable for species such as house sparrow or swift, where appropriate to the building design.

Integrated features generally provide greater long-term durability than externally mounted boxes.

Hedgehog Connectivity

Any new close-boarded fencing should incorporate approximately 130 mm × 130 mm access gaps at ground level to maintain movement opportunities for hedgehogs between adjoining gardens and surrounding habitats.

8.8 Enhancement Summary

Enhancement Measure	Ecological Benefit
Wildlife pond	Amphibians, invertebrates, birds and bats
Native planting	Nectar, fruit and habitat diversity
Orchard management	Pollinators, birds and mammals
Reduced-intensity grassland management	Increased botanical diversity
Integrated bat feature	Additional roosting opportunities
Integrated bird boxes	Additional nesting opportunities
Hedgehog access gaps	Improved habitat connectivity
Sensitive lighting	Protection of bat commuting corridors

8.9 Summary

Provided the proposed enhancement measures are implemented and maintained, they are expected to deliver a net improvement in habitat diversity, ecological connectivity and ecosystem resilience over time.

The recommended measures are proportionate to the scale of the development and are expected to deliver a net improvement in habitat diversity, ecological connectivity and ecosystem resilience over time.

Collectively, these measures accord with the biodiversity enhancement objectives of Planning Policy Wales (Edition 12) and the Section 6 biodiversity duty under the Environment (Wales) Act 2016.

9. Conclusions and Planning Statement

9.1 Conclusions

Spectrum Ecology was commissioned by Laura and Luke Healey to undertake a Preliminary Ecological Appraisal in support of proposals for extensions and associated works at Graig Madoc, Llanmihangel, Pyle.

The site supports a mosaic of habitats typical of a rural residential property, including improved and amenity grassland, a young orchard, intact species-poor hedgerows, mature and recently planted trees, introduced ornamental shrubs, continuous bracken, buildings and areas of bare ground and hard-standing. The principal ecological interest lies in the mature hedgerows and trees, which contribute to local ecological connectivity and provide habitat for a range of common wildlife, including commuting and foraging bats.

Habitats have been classified using the JNCC Phase 1 Habitat Survey methodology. The paddock is appropriately classified as Phase 1 B4 Improved Grassland, although it exhibits signs of gradual botanical diversification and offers clear potential for enhancement under sympathetic future management.

A separate bat survey confirmed that the buildings do not support a bat roost. The site is, however, used by commuting and foraging bats, reinforcing the importance of retaining existing hedgerows and implementing a sensitive lighting strategy.

No evidence was recorded of badger, reptile, amphibian or dormouse populations that would require further survey or constrain the proposed development. The principal ecological considerations relate to the protection of nesting birds during vegetation clearance and the implementation of straightforward precautionary working methods for common wildlife.

The development has been designed to retain the site's key ecological features and incorporates a range of biodiversity enhancements, including the creation of a wildlife pond, native planting, integrated bird and bat features, hedgehog connectivity measures and opportunities for sympathetic grassland management.

9.2 Planning Statement

Having regard to the findings of this Preliminary Ecological Appraisal, it is the professional opinion of Spectrum Ecology that the proposed development is capable of proceeding without significant adverse effects on biodiversity, provided that the recommendations contained within this report and the accompanying bat survey are implemented.

The proposals:

- accord with the Step-wise Approach set out in *Planning Policy Wales (Edition 12)* by avoiding, minimising and mitigating ecological impacts before delivering biodiversity enhancement;

- support the biodiversity and ecosystem resilience duties established by Section 6 of the Environment (Wales) Act 2016;
- retain the principal ecological features of the site, including mature hedgerows and trees;
- maintain ecological connectivity within the wider Green Infrastructure network;

Subject to implementation of the mitigation and biodiversity enhancement measures described within this report, the proposed development is not expected to result in significant adverse ecological effects and is expected to provide a net enhancement of biodiversity and ecological resilience at the site, in accordance with Planning Policy Wales (Edition 12) and the Section 6 biodiversity duty under the Environment (Wales) Act 2016.

Accordingly, from an ecological perspective, there are no overriding constraints that would preclude the proposed development.

References

- Bat Conservation Trust (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines, 4th edition, and relevant Night Vision Aid guidance/addendum.
- CIEEM (2017). Guidelines for Preliminary Ecological Appraisal, 2nd edition. Chartered Institute of Ecology and Environmental Management.
- Environment (Wales) Act 2016, Sections 6 and 7.
- JNCC (2016). Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit.
- SEWBRcC (2026). Aderyn Data Enquiry Report for Graig Madoc, LERC reference 0267-247, generated 25 June 2026.
- Spectrum Ecology (2026). Full Bat Survey for Presence of Bat Roosts: Graig Madoc, Llanmihangel, Pyle.
- UKHab Ltd (current edition). UK Habitat Classification documentation and field key.
- Welsh Government (2024). Planning Policy Wales, Edition 12, Chapter 6: Distinctive and Natural Places.
- Wildlife and Countryside Act 1981 (as amended); Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019; Protection of Badgers Act 1992; Hedgerows Regulations 1997.

Appendix A - Recorded species list

The following list combines species recorded during the PEA visits and confirmed site notes. Frequency terms are qualitative. Ornamental and recently planted species are identified separately. The list is sufficient to characterise habitats but is not a comprehensive botanical inventory.

Group	Common name	Scientific name / note
Grassland	Ribwort plantain	<i>Plantago lanceolata</i>
Grassland	White clover	<i>Trifolium repens</i> - abundant
Grassland	Daisy	<i>Bellis perennis</i>
Grassland	Creeping buttercup	<i>Ranunculus repens</i>
Grassland	Hogweed	<i>Heracleum sphondylium</i>
Grassland	Bulbous buttercup	<i>Ranunculus bulbosus</i>
Grassland	Perennial rye-grass	<i>Lolium perenne</i>
Grassland	Cocksfoot	<i>Dactylis glomerata</i>
Grassland	Timothy	<i>Phleum pratense</i>
Grassland	Yorkshire-fog	<i>Holcus lanatus</i>
Grassland	Purple vetch	<i>Vicia</i> species, recorded as purple vetch
Grassland	Common ragwort	<i>Jacobaea vulgaris</i>
Grassland	Creeping thistle	<i>Cirsium arvense</i>
Grassland	Common sorrel	<i>Rumex acetosa</i>
Grassland	Dock	<i>Rumex</i> species
Grassland	Ground-ivy	<i>Glechoma hederacea</i>
Grassland	Red campion	<i>Silene dioica</i>
Grassland	Oxeye daisy	<i>Leucanthemum vulgare</i>
Grassland	Mayweed/chamomile	<i>Asteraceae</i> species - identification not resolved
Grassland	Silverweed	<i>Argentina anserina</i>
Grassland	Broad-leaved willowherb	<i>Epilobium montanum</i>
Grassland	Fat-hen	<i>Chenopodium album</i>
Grassland	Sun spurge	<i>Euphorbia helioscopia</i>
Grassland	Foxglove	<i>Digitalis purpurea</i> - near hedgerow
Grassland	Wood avens	<i>Geum urbanum</i>
Grassland	Common knapweed	<i>Centaurea nigra</i>
Grassland	Tormentil	<i>Potentilla erecta</i>
Grassland	Lords-and-ladies	<i>Arum maculatum</i>
Grassland	Red clover	<i>Trifolium pratense</i> - very occasional
Fern	Bracken	<i>Pteridium aquilinum</i>
Woody	Hawthorn	<i>Crataegus monogyna</i>
Woody	Goat willow	<i>Salix caprea</i> - dominant in sections
Woody	Pedunculate oak	<i>Quercus robur</i>
Woody	Holly	<i>Ilex aquifolium</i>
Woody	Sycamore	<i>Acer pseudoplatanus</i> - dominant in NW western boundary section
Woody	Ash	<i>Fraxinus excelsior</i>
Woody	Birch	<i>Betula</i> species
Woody	Rowan	<i>Sorbus aucuparia</i>
Woody	Elder	<i>Sambucus nigra</i>
Woody	Hazel	<i>Corylus avellana</i>
Woody	Bird cherry	<i>Prunus padus</i>
Woody	Bramble	<i>Rubus fruticosus</i> agg.
Woody	Ivy	<i>Hedera helix</i>
Orchard/ornamental	Apple	<i>Malus domestica</i>
Orchard/ornamental	Plum	<i>Prunus domestica</i>
Orchard/ornamental	White poplar	<i>Populus alba</i>
Orchard/ornamental	Olive	<i>Olea europaea</i>
Orchard/ornamental	Lilac	<i>Syringa</i> species
Orchard/ornamental	Red-osier dogwood	<i>Cornus sericea</i> / <i>C. alba</i> cultivar, exact taxon not confirmed
Orchard/ornamental	Wedding-cake tree	<i>Cornus controversa</i> cultivar
Orchard/ornamental	False holly	<i>Osmanthus heterophyllus</i>
Orchard/ornamental	New Zealand privet	Species not confirmed

Appendix B - Photographic Record



Plate 1. Existing dwelling and crushed-stone driveway / hardstanding, corresponding broadly with TN6 and TN8.



Plate 2. Bare and disturbed ground, deposited spoil/rubble and temporary shipping container within TN8.



Plate 3. Improved Grassland paddock (TN9) following regular topping.



Plate 4. Taller grassland margin within TN9, supporting Yorkshire-fog and other coarse grasses.



Plate 5. White clover locally abundant within the Improved Grassland sward (TN9).



Plate 6. Bracken stand in the south-western part of the site (TN5).



Plate 7. Western hedgerow and structurally varied margin.



Plate 8. Small orchard and scattered trees (TN2).



Plate 9. Northern domestic garden/vegetable-growing area.



Plate 10. Introduced shrub near driveway and parking area (TN7).



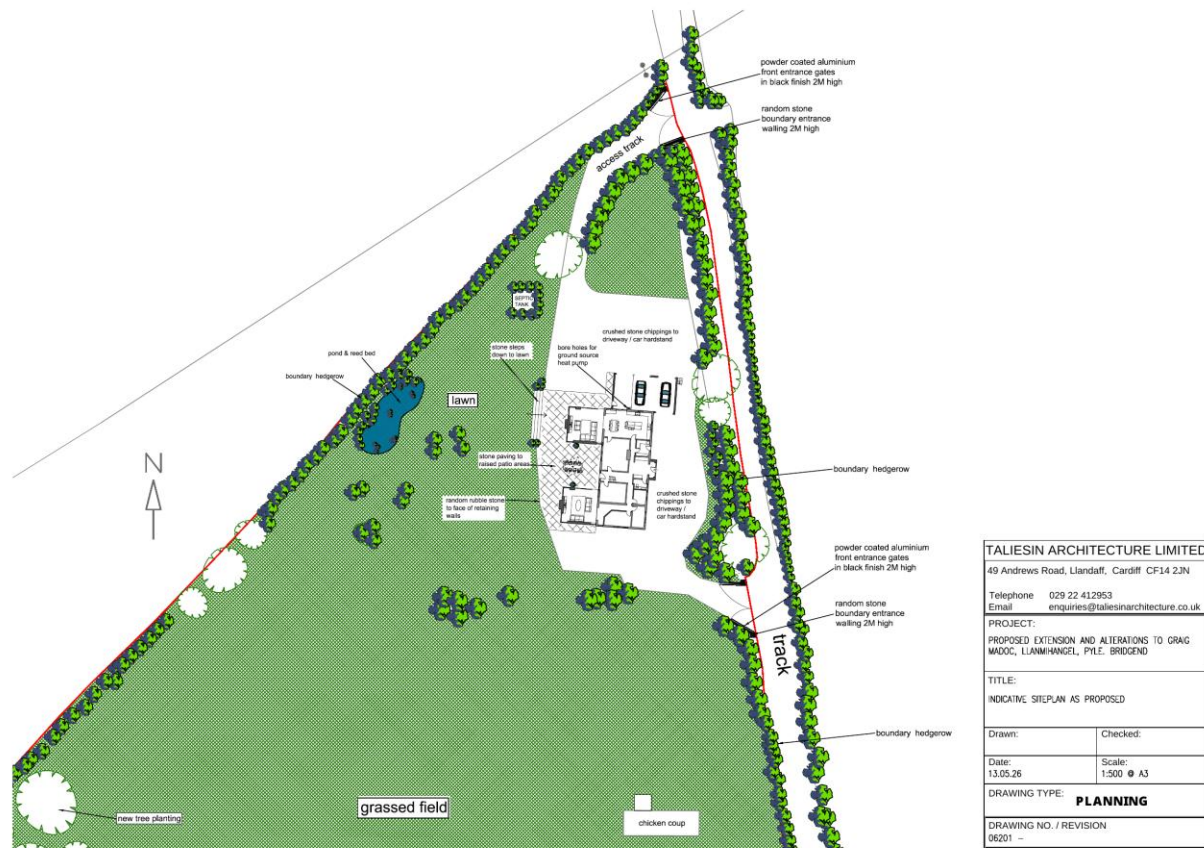
Plate 11. Chicken coop in south-east corner of paddock (TN10).



Plate 12. Southern boundary fence (TN4)

Appendix C - Proposed Site Plan

The plan below is included to show the relationship of the development and proposed green-infrastructure measures. Features such as the pond, reed bed and new planting are proposals and were excluded from the ecological baseline.



Proposed site plan supplied by Taliesin Architecture Ltd. Not an existing-habitat plan.