

Spectrum Ecology

Green Infrastructure Statement

Graig Madoc



Date: 25th July 2026

Green Infrastructure Statement

for

Proposed Residential Extensions and Garage Alterations

at

Graig Madoc

Llanmihangel, Pyle

CF33 6RL

Report by

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Ecologist

For

Laura Healey, Property Owner

1. Introduction

1.1. Spectrum Ecology has been commissioned by Laura and Luke Healey to prepare this Green Infrastructure Statement (GIS) in support of a planning application for the construction of two single-storey rear extensions, alterations to the existing garage and associated external works at Graig Madoc, Llanmihangel, Pyle (Grid Reference: SS 81753 82737).

1.2. Planning Policy Wales (Edition 12) defines green infrastructure as:

"The network of natural and semi-natural features, green spaces, rivers and lakes that intersperse and connect places."

Green infrastructure provides multiple environmental, ecological, social and landscape benefits, contributing towards biodiversity conservation, climate resilience, ecosystem services, landscape quality and human wellbeing.

1.3. Paragraph 6.2.12 of Planning Policy Wales states that a Green Infrastructure Statement should accompany all planning applications. For minor development this should be proportionate to the scale and nature of the proposals and demonstrate how green infrastructure has been considered during the design process through application of the Green Infrastructure Assessment Framework and the step-wise approach to maintaining and enhancing biodiversity.

1.4. The proposed development comprises extensions and alterations to an existing dwelling within an established residential curtilage. Accordingly, this Statement has been prepared as a concise and proportionate assessment that demonstrates how the proposals retain, protect and enhance existing green infrastructure whilst incorporating appropriate opportunities for biodiversity enhancement.

1.5. This Statement should be read alongside the accompanying Preliminary Ecological Appraisal (PEA), which provides a detailed assessment of the habitats, protected species potential, ecological constraints and recommended mitigation associated with the proposals.

1.6. Aerial view of property proposed for redevelopment in the context of wider landscape:



2. Existing Green Infrastructure

2.1. Site Context

The application site comprises an established detached dwelling with associated gardens, orchard, driveway, outbuildings and adjoining improved grassland situated within a predominantly rural landscape on the northern edge of Llanmihangel.

The surrounding landscape is characterised by agricultural pasture, mature hedgerows, scattered broadleaved trees, small woodland blocks and rural residential properties, collectively forming an interconnected green infrastructure network extending throughout the wider countryside.

2.2. Existing Green Infrastructure Assets

The accompanying Preliminary Ecological Appraisal identified a range of existing green infrastructure assets within the application site.

These comprise:

- mature species-poor native hedgerows defining the site boundaries;
- scattered broadleaved trees;
- a young orchard;
- areas of improved grassland;
- amenity grassland surrounding the dwelling;
- ornamental shrub planting;
- permeable garden habitats; and
- existing buildings that provide opportunities for biodiversity enhancement.

Although individually varying in ecological value, these features collectively contribute to the character, function and resilience of the local green infrastructure resource.

The retained trees and hedgerows provide visual containment, seasonal shading, carbon storage, rainfall interception and habitat connectivity whilst supporting a variety of birds, invertebrates and other wildlife.

The orchard provides additional structural diversity, blossom resources for pollinating insects and seasonal food resources for birds and mammals.

Collectively these habitats contribute to ecological connectivity between the surrounding agricultural landscape and adjacent semi-natural habitats.

2.3. Green Infrastructure Within the Wider Landscape

The application site lies within the mapped extent of the **NPT Watercourses Site of Importance for Nature Conservation (SINC)**.

The ecological interest of this designation relates principally to the wider watercourse corridor and associated habitats rather than the existing residential curtilage which forms the subject of this planning application.

The proposals are confined almost entirely to existing buildings, hardstanding and managed garden habitats and therefore avoid direct impacts upon the principal habitats associated with the designation.

Additional non-statutory designated sites within the surrounding landscape include:

- NPT Ancient Semi-Natural Woodland SINC (approximately 270 m north-west);
- Afon Cynffig SINC (approximately 250 m west);
- North-Eastern Dunes SINC (approximately 480 m south-west); and
- St James' Church Wood SINC (approximately 500 m north-west).

The site's retained boundary vegetation contributes to local ecological connectivity between these wider habitat networks.

3. Green Infrastructure Strategy

- 3.1.** Planning Policy Wales recognises that green infrastructure should be considered from the earliest stages of the design process so that existing natural assets are retained wherever practicable before opportunities for enhancement are explored.

The proposed development has therefore been designed around the existing green infrastructure resource of the site, seeking to retain those features that make the greatest contribution to landscape character, biodiversity and ecological connectivity whilst accommodating the reasonable domestic requirements of the applicants.

- 3.2.** The proposed extensions are immediately adjoining the existing dwelling within the established residential curtilage. This approach limits the extent of additional land required for development and avoids unnecessary encroachment into adjoining grassland and boundary habitats.

Development is concentrated upon areas that are already influenced by residential use, thereby minimising the loss or fragmentation of existing green infrastructure.

- 3.3.** The mature boundary hedgerows will be retained throughout the development. These features represent one of the site's most valuable green infrastructure assets, providing landscape structure, visual screening and habitat connectivity with the wider countryside.

Their retention maintains existing ecological corridors used by birds, bats, invertebrates and other wildlife whilst preserving the rural character of the site.

- 3.4.** Similarly, the existing scattered broadleaved trees and young orchard are retained as integral components of the proposed layout.

These features contribute to the vertical structure of the landscape, provide seasonal nectar, fruit and shelter, and continue to perform important ecosystem services including carbon storage, shading, interception of rainfall and moderation of local microclimate.

- 3.5.** Existing permeable garden areas surrounding the dwelling will also largely be retained. This helps maintain opportunities for rainwater infiltration, supports soil function and provides continued habitat for common wildlife associated with domestic gardens.

Overall, the proposals seek to integrate new built development within the existing green infrastructure resource rather than replacing it.

4. Proposed Green Infrastructure Enhancements

- 4.1.** In addition to retaining the site's existing green infrastructure assets, the proposals incorporate a number of proportionate enhancement measures intended to strengthen biodiversity and ecological resilience in accordance with Planning Policy Wales and the biodiversity duty under Section 6 of the Environment (Wales) Act 2016.

These measures are additional to those required to avoid or mitigate ecological impacts and therefore represent genuine opportunities to enhance the site's contribution to the wider green infrastructure network.

4.2. Wildlife Pond

The creation of a small wildlife pond is proposed within the garden.

Although modest in scale, the introduction of permanent freshwater habitat would significantly increase habitat diversity by providing ecological niches that are currently absent from the site.

The pond would provide opportunities for amphibians, aquatic invertebrates, birds and mammals whilst also supporting pollinating insects through associated marginal vegetation.

As one of the few freshwater habitats likely to occur within the immediate locality, it would make a valuable contribution to the ecological function of the residential curtilage.

4.3. Native Planting

Additional native trees, shrubs and flowering plants are proposed to complement existing vegetation and reinforce the site's green infrastructure.

The use of locally appropriate native species would increase seasonal nectar availability, fruit production and structural diversity whilst maintaining consistency with the surrounding rural landscape.

Appropriate species should be selected to provide a succession of flowering and fruiting resources throughout the year, benefiting pollinating insects, birds and other wildlife

4.4. Hedgerow Enhancement

Existing boundary hedgerows provide an opportunity for selective strengthening through supplementary native planting where appropriate.

Any reinforcement should utilise species characteristic of local hedgerows, such as hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), hazel (*Corylus avellana*), field maple (*Acer campestre*) and dog rose (*Rosa canina*).

This would improve structural diversity, increase resilience to future losses and strengthen the site's contribution to ecological connectivity across the wider landscape.

4.5. Integrated Wildlife Features

The incorporation of integrated bat and bird nesting features within the completed development would provide additional opportunities for protected and priority species without affecting the use or appearance of the dwelling.

Where practicable, integral features should be incorporated into the fabric of the building rather than relying solely upon externally mounted boxes, thereby providing durable, low-maintenance habitat that contributes to the long-term ecological value of the development.

4.6. External Lighting

Any new external lighting should be designed to minimise unnecessary illumination of retained hedgerows, trees and other vegetated boundaries.

The use of warm-coloured, downward-directed luminaires with appropriate shielding and timers or motion sensors would reduce light spill whilst maintaining domestic safety and security.

This approach will help maintain the suitability of retained boundary vegetation for commuting and foraging bats together with other nocturnal wildlife.

4.7. Long-term Green Infrastructure Benefits

Collectively, the retention of existing vegetation together with the proposed biodiversity enhancements will increase habitat diversity and strengthen the multifunctional role of the site's green infrastructure.

In addition to ecological benefits, these measures will contribute towards climate resilience through carbon storage, shading, rainwater interception and local cooling whilst maintaining the rural character of the site and supporting the health and wellbeing benefits associated with access to high-quality green spaces.

5. Application of Step-wise Approach

5.1. Planning Policy Wales (Edition 12) requires planning authorities and applicants to apply the step-wise approach to maintain and enhance biodiversity, build resilient ecological networks and secure positive outcomes for green infrastructure.

The proposed development has been designed in accordance with this approach by seeking first to avoid unnecessary impacts on existing green infrastructure before considering mitigation and opportunities for enhancement.

5.2. Avoid

The proposals have been designed to avoid unnecessary impacts upon the site's principal green infrastructure assets by:

- retaining the existing boundary hedgerows;
- retaining the scattered broadleaved trees and orchard;
- confining development to the established residential curtilage;
- avoiding direct impacts upon the principal habitats associated with the NPT Watercourses SINIC; and
- maintaining existing ecological connectivity with the surrounding landscape.

By concentrating development around the existing dwelling and garage, the proposals avoid unnecessary encroachment into adjoining green spaces and retain the features that make the greatest contribution to the site's environmental value.

5.3. Minimise

Where development is required, the proposals minimise ecological effects through careful design.

The extensions immediately adjoin the existing dwelling and extend into areas of existing hardstanding and potentially amenity / garden lawn grassland, reducing the extent of habitat loss and limiting fragmentation of the site's green infrastructure. Existing permeable garden areas are largely retained, allowing continued infiltration of rainwater and preserving opportunities for wildlife associated with domestic gardens.

The recommendations contained within the accompanying Preliminary Ecological Appraisal, including measures relating to protected species and sensitive working practices, will further minimise the potential for ecological impacts during construction.

5.4. Mitigate

The accompanying Preliminary Ecological Appraisal identifies a range of proportionate precautionary measures to safeguard retained habitats and protected species during construction, including adherence to sensitive working practices and appropriate management of external lighting. As the proposals retain the site's principal green infrastructure assets and avoid significant ecological impacts, no specific habitat mitigation measures are required beyond these recommendations.

5.5. Compensate

The proposals are not expected to result in the loss of habitats or ecological features requiring compensation. Accordingly, compensatory habitat creation or replacement measures are not considered necessary.

5.6. Enhance

In accordance with Planning Policy Wales, the proposals incorporate opportunities for biodiversity enhancement that are additional to those required to avoid or mitigate impacts.

These include:

- creation of a wildlife pond;
- additional native planting;
- selective reinforcement of existing hedgerows;
- integrated bat roosting features;
- integrated bird nesting features; and

- sensitive external lighting to protect nocturnal wildlife.

Collectively these measures will strengthen habitat diversity, improve ecological resilience and increase the contribution of the site to the wider green infrastructure network.

- 5.7.** The proposals therefore demonstrate the application of the Planning Policy Wales step-wise approach by avoiding unnecessary impacts upon existing green infrastructure, minimising those impacts that cannot reasonably be avoided, and incorporating practical measures that provide opportunities for biodiversity enhancement within the site.

6. Conclusions

- 6.1.** The proposed development has been informed by the existing green infrastructure resource of the site and has sought to retain the principal ecological and landscape features that contribute to its environmental value.

The proposals are confined largely to the existing residential curtilage and retain the site's mature hedgerows, scattered trees and orchard, thereby maintaining landscape character and ecological connectivity with the surrounding countryside. The principal habitats associated with the NPT Watercourses Site of Importance for Nature Conservation will remain unaffected.

- 6.2.** In addition to retaining existing green infrastructure, the proposals incorporate a range of proportionate biodiversity enhancements, including the creation of a wildlife pond, additional native planting, opportunities for hedgerow reinforcement, integrated bat and bird features, and appropriate lighting design.

These measures will strengthen the ecological function of the site whilst providing wider benefits including improved habitat diversity, climate resilience, ecosystem services and landscape quality.

- 6.3.** Subject to implementation of the recommendations contained within the accompanying Preliminary Ecological Appraisal and the green infrastructure measures described within this Statement, the proposed development is not expected to result in significant adverse effects on green infrastructure and is expected to provide a demonstrable enhancement of biodiversity and ecological resilience in accordance with Planning Policy Wales (Edition 12) and the biodiversity duty under Section 6 of the Environment (Wales) Act 2016.

7. References

- Planning Policy Wales, Edition 12.
- Environment (Wales) Act 2016.
- Preliminary Ecological Appraisal, Graig Madoc, Spectrum Ecology (2026).