GIS

STUDIO 9 ARCHITECTURE

2610 DMR GIS

Green infrastructure Statement

Proposed Extension to 50 Middle Rd,
Coedpoeth, Wrexham LL11 3TW

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Studio9Architecture.co.uk

Info@studio9architecture.co.uk

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NOTES:

Unless stated otherwise. Do not scale from Drawing

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Introduction



This Green Infrastructure Statement has been prepared in support of a planning application for the extension to the side of the property to 50 middle road,coedpoeth. The statement assesses the existing green infrastructure within and surrounding the site and identifies opportunities to protect, enhance and integrate ecological features as part of the proposed development

The statement includes:

- Assessment of the architectural site plan of the scheme
- Analysis of connectivity and green infrastructure.
- Biodiversity and the natural environment.

Following guidelines and principles set out by a range of datasets and literature available:

- Welsh government (2024) Planning policy Wales Edition 12.
- Well-being of future Generations act 2015, Wales
- CIRIA, CIEEM, IEMA (2016) Biodiversity net gain: Good practice principles for development.
- Flood and Water management Act 2010, Schedule 3

'Planning Policy Wales sets out the land use planning policies of the Welsh Government. Its primary objective is to ensure that the planning system contributes towards the delivery of substantial development and improves the social, economic and environmental and cultural well-being of Wales'.

What is Green Infrastructure



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



At the landscape scale green infrastructure can comprise entire ecosystems such as wetlands, waterways and mountain ranges.



At a local scale, it might comprise parks, fields, public rights of way, allotments, cemeteries, and gardens.



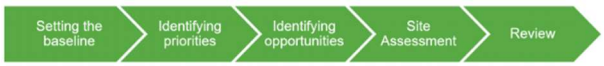
At smaller scales, individual urban interventions such as street trees, hedgerows, roadside verges, and green roofs/walls can all contribute to green infrastructure network.

Planning Policy

With the direct reference to Planning Policy Wales Edition 12 (2024), the stated objective as it related to Green Infrastructure and the primary criteria for the success of the proposal in this regards as follows:

Planning Policy Wales Edition 12 (2024) 6.2.7

- *The identifying of landscape, biodiversity, geodiversity, and historic and cultural features in which green infrastructure plays as part, which are already being safeguarded as part of multi-functional urban and landscapes.*
- *The nature emergency identifying and demonstrating how a net benefit for biodiversity will be secured and the attributes of ecosystem resilience enhanced, making the links to other land management activity, such as local nature recovery plans, and identifying land which may be required for the protection, retention and restoration and recovery of nature (and in providing a net benefit for biodiversity). This includes recognising the value of designated sites, and natural resources such as peatlands, as part of resilient ecological networks. In urban areas, the protection and provision of green infrastructure should be considered alongside the needs of wider maintenance regimes, and any role development may have in making an effective contribution. The assessments may assist in identifying how the impact of INNS and the risk of introducing or spreading INNS will be managed.*
- *The reduction of pollution, as far as possible, by identifying green infrastructure/nature-based solutions which form part of, or complement, wider activity at a catchment scale to address pollution and improve the restoration of riverine and other habitats.*
- *The climate emergency by ensuring the multi-functional benefits provided by trees and woodlands are identified; for example, by increasing tree canopy cover in urban areas to ensure shading against increased temperatures, and by requiring effective natural flood management and sustainable drainage schemes. Such measures 116 Section 41 of The Conservation of Habitats and Species Regulations 2017:*
- *The health and well-being of communities by ensuring they have accessible natural green spaces of various sizes and scales within reasonable walking and cycling distances*
- *How the planning system should secure the implementation and management of green infrastructure, recognizing its dynamic nature, over the long term*



Green Infrastructure Assessment Flowchart

Planning Policy Wales Edition 12 (2024) 6.4.3

- *Support the maintenance and enhancement of biodiversity and the resilience of ecosystems.*
- *Ensure action in Wales contributes to meeting international responsibilities and obligations for biodiversity and habitats, including the most recent targets set out in the 2022 UN Global Biodiversity Framework.*
- *Ensure statutorily and non-statutorily designated sites and habitats are properly protected and managed and their role at the heart of resilient ecological networks is safeguarded;*
- *Safeguard protected species and species of principal importance and existing biodiversity assets from direct, indirect or cumulative adverse impacts that affect their nature conservation interests and compromise the resilience of ecological networks and the components which underpin them, such as water, air and soil, including peat;*
- *Secure the maintenance and enhancement of ecosystem resilience and resilient ecological networks by improving diversity, extent, condition, and connectivity.*

To appropriately characterize the region's varies ecological conditions, the NRW North East Wales Area statement makes reference to the following designations of Broad Habitats:

- Enclosed Farmland
- Marine
- Mountains
- Heath
- Open Water
- Wetlands/Floodplains
- Semi-Natural Grassland
- Urban
- Woodlands

Additionally, there are statutory Designations which form part of the considerations as follows:

- Local Nature Reserves
- National Nature Reserves
- Sites of Special Scientific Interest
- Wetlands of International importance
- Special Protection Areas
- Special Areas of Conservation
- Areas of Outstanding Natural Beauty
- National Parks

By appropriately understanding these two categories of the site informs the strategic approach to be undertaken when appraising the site in relation to the promotion of resilient Green Infrastructure. Based on these designations, the proposal site falls within the following definitions:

- Semi Grassland

The key themes outline in the NRW Area statement are as follows:

- Climate Emergency: Resilience and adaptation
  Climate change is one of, if not the, defining issues of our time. From shifting weather patterns that threaten food production to rising sea levels and the prospect of catastrophic flooding, the impact of climate change is global in scope and therefore unprecedented in scale. Drastic action needs to be taken right now. Trying to adapt in the future will not only be more difficult and costly, but also potentially too late.

- Develop and improve urban/rural green infrastructure
  Green infrastructure is a broad umbrella term, but the area statement points to the following enhancements in particular:
  - Climate change adaptation
  - Reverse the Decline in biodiversity
  - Reduce pollution levels in our air, enhance air quality and reduce noise pollution
  - Develop resilient ecological networks
  - Improve the quality and ensure the quantity of our water
  - Woodlands and more widespread use of trees
  - Safeguarding and increasing caron stores in soil and biomass
  - Reducing the risk of land and coastal flooding

- Increasing woodland cover for social, environmental and economic benefits
  "Trees help regulate our climate, reduce noise, store carbon, safeguard soils, improve air quality and reduce flood risk. They create jobs and income from timber and other activities. They play a major role in pollination, soil formation, nutrient cycling, water cycling and oxygen production."

- Promoting the Resilience of ecosystem in maintaining and enhancing biodiversity
  In Northeast Wales, there is tremendous pressure on how we use our land. It comes from industry, farming, housing, urban sprawl, rural land use, renewable energy schemes, even transport. There is example of direct relationships between poor environments and more deprived communities. Our wildlife is also in decline, with some species at risk of extinction.

- Protecting water and soil through farming and sustainable land management
  "The land managers of this broad range of habitats have an opportunity to consider how the sustainable management of natural resources can improve our 'ecosystem services' – the many and varied benefits that we get from the natural environment and healthy ecosystems. These include food, clean water and air along with other regulatory, cultural and supporting services such as carbon storage, recreational opportunities and biodiversity enhancement. By working together to manage the land sustainably, we can maintain and improve the services that nature provides us.

It is considered that a pro-active approach to Green infrastructure can gainfully contribute to the achievement of these stated criteria which will be used as a touchstone to measure the appropriateness of proposal. The high-level intentions of the strategy are to establish a standard of action around the following:

- Avoidance
  The first principle is to avoid damage to local biodiversity as far as practicable within the scope of the brief and direct the brief with a view to this objective.

- Minimisation
  Where damage to the local biodiversity is unavoidable, then it is intended that the lightest possible touch in relation to the development and its impact on the site and associated habitats

- Mitigation & Restoration
  The impact of the development on the local ecology must be assessed and recorded specifically where positive measures can be balanced against it. The ideal is where the ecology is disturbed in the execution of the development, that it is to be retuned to as close to its original condition as possible with appropriate forethought, mitigation can be made with the conscientious extraction specific significant features for reinstallation later.

- Compensation
  In the event where mitigation cannot be achieved to a scale that appropriately offsets the deleterious impacts of the development, then compensation must be made to better the condition versus the original state of the site. In exceptional circumstances it is suggested that off site compensation can be considered.

- Additional enhancement
  Where the primary principles attempt to achieve a net-zero impact on the local biodiversity, there are specific additional enhancement measures that can be made to present a betterment over the original conditions.

Connectivity & Green Infrastructure

Condition of Existing Green Infrastructure

The site is currently occupied by a semi-detached residential dwelling with associated garden space, hardstanding and boundary vegetation. Existing green infrastructure is limited in scale and primarily consists of grassed areas and boundary planting, including hedgerows.

These features provide a modest level of ecological function, offering some habitat potential for common garden species such as birds and invertebrates. However, the overall ecological value of the site is typical of a domestic residential plot and is not considered to be of significant ecological importance.

There is no formal green infrastructure network within the site, and vegetation is largely incidental to the residential use. Boundary planting contributes to local character and provides a degree of enclosure and connectivity to surrounding gardens.

Overall, the existing condition presents a low to moderate baseline, with opportunities for enhancement as part of the proposed development.

Ecosystem Service of Green Infrastructure

The existing green infrastructure provides a limited range of ecosystem services at a domestic scale. These include basic habitat provision, minor biodiversity support, and a contribution to visual amenity.

The site forms part of a wider residential environment where gardens, planting and boundary treatments collectively contribute to local green infrastructure. Whilst individual features are limited, they form part of a broader network of small-scale habitats typical of suburban and village settings.

The proposed development provides an opportunity to improve these functions through the introduction of additional planting and ecological features, enhancing biodiversity and supporting local environmental quality.

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Required safeguarding of Existing Green Infrastructure

Existing green infrastructure within the site is generally limited to boundary hedgerows and garden planting. These features will be retained where practicable and incorporated into the proposed development.

The design of the extension ensures that the majority of existing garden areas remain unaffected, maintaining the established character and function of the site.

Where new development is introduced, opportunities are taken to enhance the landscape through additional native planting and soft landscaping. This ensures that the overall quality of green infrastructure is improved, despite the small-scale nature of the proposal.

The approach seeks to retain existing features where they contribute positively, while enhancing the site through a coordinated and appropriate landscape strategy.

Green Infrastructure Priorities

Rivers & Waterbodies

The Rivers & Waterbodies map taken from NRW shows that there is no risk of river & waterbodies flooding within the site.



High
Medium
Low

Floor Risk

The Flood Maps taken from the NRW shows that there is no flood risk from the site.



High
Medium
Low

Green Infrastructure Opportunities

Diversity

The proposed development introduces a small number of additional planting and ecological features appropriate to the scale of a domestic extension. The existing site is typical of a residential garden, with vegetation largely confined to boundary hedgerows and grassed areas.

The scheme enhances this through the introduction of native shrub planting and retained boundary vegetation, providing modest habitat opportunities for birds and invertebrates. These additions are proportionate to the scale of development and contribute positively to the site's ecological value.

Extent

The proposed extension occupies a limited footprint within the existing residential plot and does not result in significant loss of garden space or vegetation.

Soft landscaping is retained across the majority of the site, with planting incorporated around the extension and along boundaries where appropriate. This ensures that green infrastructure remains a key component of the site, consistent with its existing residential character.

Adaptability

The proposed landscaping has been designed to be low maintenance and resilient, suitable for a domestic garden environment.

The use of native and robust planting species ensures that the landscape can establish successfully and respond to seasonal variation, maintaining its ecological and visual function over time.

Condition

The existing green infrastructure is of typical domestic quality, comprising garden planting and boundary vegetation. The development provides an opportunity to improve this through the introduction of additional planting and a more coordinated approach to landscaping.

This will result in a modest improvement in the overall condition and appearance of the site.

Connectivity

The site forms part of a wider residential setting where gardens and boundary planting contribute to local ecological connectivity.

The retention of hedgerows and introduction of additional planting will help maintain this relationship, ensuring that the site continues to function as part of the surrounding network of domestic green spaces.

Maintaining & Enhancing Biodiversity

Avoidance of Negative Impact

The design of the extension has been developed to avoid unnecessary impacts on existing vegetation and ecological features. Boundary planting is retained where practicable, and the extension is positioned within the existing developed area of the site.

This ensures that the proposal does not result in unnecessary loss of habitat or encroachment into undeveloped areas.

Mitigation & Restoration

Any minor disturbance to existing vegetation required to facilitate construction will be addressed through replacement planting and reinstatement of affected areas.

This ensures that the site is returned to an appropriate condition following development, consistent with its residential use.

Additional Enhancement

The proposal includes small-scale enhancements to biodiversity through the introduction of native planting and integrated ecological features, such as bird and bat boxes where appropriate.

These measures provide additional habitat opportunities and contribute to the ecological value of the site without altering its overall character.

Minimisation of Impact

Construction impacts will be limited through the use of standard good practice measures, including the protection of retained vegetation and careful site management.

Given the scale of the development and the limited ecological baseline, impacts are expected to be minimal.

Mitigation

The development incorporates proportionate ecological measures, including native planting and habitat features, to ensure that biodiversity is maintained and modestly enhanced as part of the proposal.

These measures support local wildlife and ensure that the development integrates appropriately within its residential setting.

Summary

Over the course of this statement, it has been demonstrated that the proposed side extension has been designed to integrate appropriately within the existing residential site while retaining and supporting existing green infrastructure. The site currently comprises a domestic dwelling with associated garden areas, hardstanding and boundary vegetation, providing a typical residential baseline.

The proposal reflects the scale and nature of the site, ensuring that the extension is accommodated within the existing developed footprint and that garden areas and boundary planting are largely retained. Opportunities for minor enhancement have been identified through additional planting and the incorporation of simple ecological features.

Through the application of Planning Policy Wales (Edition 12) and associated guidance, the development adopts a proportionate approach to green infrastructure, ensuring that biodiversity and landscape considerations are addressed in a manner appropriate to the scale of the proposal.

As a summary of the findings, the development delivers the following:

- **Avoidance of negative impact:**
  The extension is positioned within the existing developed area of the site, ensuring that garden space and boundary vegetation are retained where practicable and avoiding unnecessary disturbance to existing ecological features.

- **Minimisation of impact:**
  Construction and landscaping works will be carried out using standard good practice measures, ensuring that disturbance to existing vegetation is limited and that retained features are protected.

- **Mitigation measures:**
  The scheme incorporates proportionate ecological measures, including the retention of existing planting and the introduction of additional native shrubbery where appropriate.

- **Mitigation & Restoration:**
  Any minor areas of disturbance resulting from construction will be reinstated through replacement planting and soft landscaping, maintaining the overall character and function of the site.

- **Additional Enhancement:**
  Small-scale enhancements, such as native planting and the potential inclusion of bird or bat features, will provide modest biodiversity benefits appropriate to a domestic setting.

This approach demonstrates a proportionate and sustainable response, ensuring that the development integrates with the existing site while maintaining and modestly enhancing green infrastructure.

Finally, in considering the wider environmental context, the development contributes to the following:

- Supporting local biodiversity within a residential setting

- Maintaining continuity of boundary planting and garden habitats

- Contributing to the overall quality and character of the surrounding area

Consequently, it is considered that the proposed development results in no significant ecological harm and delivers a small but positive contribution to the site's green infrastructure, consistent with the scale and nature of the proposal.

Studio 9 Architecture

Email: Info@studio9architecture.co.uk

Website: www.Studio9architecture.co.uk

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