

What is green Infrastructure?

In Planning Policy Wales, green infrastructure has been defined as:

'The network of natural and semi-natural features, green spaces, rivers and lakes that intersperse and connect places'. Green Infrastructure can function at a range of different scales; from entire ecosystems such as wetlands and rivers to parks, fields and gardens at the local scale and street trees, hedgerows, roadside verges and green roofs/ walls at the micro scale.

In summary the Green Infrastructure Assessments should follow the Step-Wise Approach using **DECCA** (Diversity, extent, condition, connectivity and adaptation).

Assessing impacts on habitats and species;

Step1 – Avoid

Step 2 - Minimise

Step 3 – Mitigate / Restore

Step 4 – Compensate on site

Step 4 – Compensate off site

Step 5 – Refuse planning permission

Implementing the Section 6 Duty: The DECCA Framework

Diversity:

At a biological level, including at the genetic, species, habitat, ecosystems or sea/landscape scale, as well as at the geological and physical level underpins biodiversity, resilient ecosystems, their functioning and the delivery of important ecosystem services. More diverse ecosystems are more resilient to external influences (this includes biological, geological and physical diversity on a site). This means strategic planning and individual development proposals should avoid negative impacts on biodiversity, by considering how biodiversity assets, can be maintained and enhanced;

Extent:

To ensure mechanisms allow for the identification of potential habitat, the maintenance of existing biodiversity assets and networks and promote the restoration of damaged, modified or potential habitat and the creation of new additional habitat, as ecosystems which are small in extent are less resilient to external influences. This means that strategic planning and individual development proposals must avoid loss in the extent of biodiversity and incorporate measures to appropriately maintain and enlarge existing habitats, especially where extent is small or declining, through habitat restoration and creation with adjoining and nearby areas, green infrastructure features and networks;

Condition:

Ecosystems and biodiversity assets need to be in a healthy condition to function effectively, to deliver a range of important ecosystem services and be more resilient to external influences. Ecosystem health can be adversely affected by a range of pressures including land use and climate change, pollution, Invasive Non-Native Species and over exploitation as set out in SoNaRR. Good condition requires sufficient scale and functioning natural processes or appropriate management to provide structural complexity and sustain diverse mosaics of habitats. Strategic planning and individual development proposals must not compromise the condition of ecosystems. By taking an integrated landscape approach to development, for example, which considers both direct, indirect and cumulative impacts and benefits, and seeks to reduce pressures it should be possible to make a positive contribution. Planning for and securing the long

term management of retained habitats is key to maintaining condition through for example, the use of planning obligations;

Connectivity:

To take opportunities to develop functional and physical connectivity of biodiversity and ecological networks within and between ecosystems and across landscapes, building on existing connectivity and quality and encouraging habitat creation, restoration and appropriate management, including the links within and between habitats, allows species to forage, breed and migrate and respond to climate change and other pressures, as well as enabling the flow of natural processes (however, measures should be taken to prevent undesired flows such as INNS and nutrients). The opportunities to be taken at a strategic level could include enlarging habitat areas, developing buffers around designated sites or other biodiversity assets or corridors, including transport and river corridors, removal of barriers and the creation of 'stepping stones' which will strengthen the ability of habitats and ecological networks to adapt 7Potential for a task and finish group to consider possible options. 11 to change, including climate change. Individual development proposals should identify and incorporate measures which enable appropriate links to be made between the site and its surroundings so as to improve connectivity.;

Adaptation:

Resistance and recovery from pressures arise when the attributes of ecosystem resilience – diversity, extent, condition and connectivity of ecosystems are in good condition. Habitats and species are not static: planning for nature recovery should aim to sustain habitats and associated species as the geography and landuse changes around them, harnessing natural processes and opportunities for nature-based solutions. This means that strategic planning and individual development proposals should identify impacts to the ecosystem resilience attributes of biodiversity, using the pressures identified in SoNaRR. They should incorporate measures to ensure that biodiversity's ability to adapt to, resist and recover from pressures is enhanced. Enhancement of resilient ecological networks and securing and enhancing green infrastructure will be key ways of achieving this, as well as facilitating social and economic resilience aspirations of the Well-being of Future Generations Act.

The following statement has been produced with reference to

Planning policy Wales - edition 12 - Chapter 6
Planning policy Wales - edition 12 - Chapter 6 – 6.4.15 Step-wise approach
Caerphilly County Borough Council Local Development Plan 2010.
Caerphilly County Borough Council- LDP 4 - Trees and Development.
Caerphilly County Borough Council - LDP5 - Car parking Standards.

Target - is to preserve and enhance the existing Green Infrastructure on open sites especially.

Even if biodiversity value has been maintained, there must still be a pro-active process to look for and secure enhancement through the design and implementation of the development.

Target – to deliver a **net benefit** for biodiversity and ecosystem resilience from the **baseline state**.

Where possible a development may be fitted with Ecological Enhancement Methods such as:

Tree Planting.

Policy states that where a tree is removed from the site then 2 trees are to be planted in it's place.

Trees can provide food, shelter and nesting sites for a whole range of animals – from insects that make their home inside a tree, to the woodpeckers that hammer their way inside to eat them.

If you have the space, you might decide to mange trees in a small group, otherwise you may wish to choose to stick with a single tree in a border, hedge or lawn.

Coniferous and deciduous trees can bring different features to your garden and of it's possible having both and be of great benefit.

Coniferous trees will give foliage and greenery all year round, while deciduous trees will give a huge variety of leaf shape and colours as well as a seasonal bounty of fruits and seeds

Bat boxes.

Bat boxes should be located at least 4m above the adjacent ground level (where safe installation is possible). Bat boxes should be sited away from artificial light sources to protect them from predation.

Sheltered from strong winds and exposed to the sun for part of the day (usually south, south-east or south-west).

Bird boxes.

Nest boxes for sparrows, tits or sparrows should be installed a 2 – 4m up a wall or tree.

Bird boxes should ideally be installed on the north and east elevations, thus avoiding strong strong sunlight and the wettest winds.

Swift nest bricks and swallow and house martin nests can be fitted under the eaves to provide shelter for these species.

Swift nest bricks should be located 5m above the ground level.

Hedgehogs.

Hedgehog access through fences etc.

Hedgehogs can travel up to 1 mile in a night in search of food and water. A hedgehog highway is a series of holes in fences and walls that allow the hedgehog to pass freely between gardens, paths and allotments. These paths allow hedgehogs to move freely without having to use human roads and footpaths.

Bee boxes and bricks.

Bee bricks provide homes for cavity nesting species of bees such as red mason bees and leaf cutter bees. These bees rarely sting and are often solitary.

Bug hotels.

Insects and other mini beasts need safe spaces to shelter, hide from predators, and raise their young. You can help them by building a bug hotel in your garden or outside area.

Wildflower and pollinator planting.

As well as providing shelter and access to your garden for wildlife, using the right plants can provide benefits for biodiversity too.

Plant native shrubs for their flowers and berries – these will attract butterflies, moths, bees and birds. European shrubs provide winter foliage and shelter during colder months.

Encourage bats in to your garden by planting flowers that attract insects, for example night scented stock, evening primrose and lavender. Bats can consume up to 3000 midges a night.

For smaller gardens, planting climbers such as honeysuckle, clematis , sweet pea and roses provide resources for pollinators without the need for large spaces.

Pond creation.

A shallow fresh water pond creates habitat for a wide variety of species including insects, amphibians and plants, as well as providing an important water resource to birds and mammals.

Refugia creation, (use old dead logs to create insect homes).

Use old dead logs to create an inviting home and feeding ground for insects, toads, newts and bees. All the rotting wood, flaking bark and maze of little gaps between the logs is heaven for a wide range of wildlife

Areas of lawn land that may be kept uncut (reduce mowing).

Reducing mowing to just once a month or twice a year provide more flowers for pollination, allows plants to set seed and creates better habitats for other animals.

Pages 13 onward GI - WAG annexe

Canopies,
Grass verges
Habitats
Trees,
Hedgrows

Damages habitats and disturbed spaces
Mitigation or restoration methods if the above

Green Infrastructure Statement.

Please note that the following statement has been produced relative and in proportion to the scale of the development and as such it is assumed that exhaustive detail is not required for a outline planning application for a single five bedroom dwelling.

The following Green Infrastructure Statement to be read in conjunction with following drawings and supplementary information;

- 3235/01 – proposed plans at 1:50
- 3235/02 – proposed site plan and proposed elevations at 1:100

Site address;

Land adjacent to
no9 Addison Road,
Port Talbot,
SA12 6HJ

Proposed development;

Residential Development of single 5 bedroom dwelling and associated off street parking required by local authority highways.

The application site area is 205m² with a proposed building footprint of 67m². The required car parking provision of 3no spaces of 2.6 x 4.8 would therefore require a surface area of 37.44m² access driveway - 10m²

Is is proposed that the foul water would discharge in to the existing mains drainage in the highway – final details to be investigated and agreed on site.

Surface water discharge to be designed as part of the SuDS detail and subsequent application provided after the issue of full planning permission.

Existing site;

The application site previously had planning permission for a detached 3 bedroom dwelling – application no P2016/0546, permission granted 05/09/2016.

Site photo1



Site photo 2



Site photo 3



Site photo 4



Site photo 5



Site photo 6



Policy Context;

Planning Policy Wales aims to contribute toward the delivery of sustainable development, embedding the principle of the well-being of Future Generations (Wales) Act 2015, PPW ingrains Place making Wales Charter and how sustainable sustainable development can be achieved through implementing place making.

Section 6 sets out Green infrastructure and how it can be integrated into developments, which should be protected and enhanced due to the multi-functional roles, A proactive approach to green infrastructure and biodiversity should be adopted to help reverse the decline in biodiversity and increase the resilience of ecosystems.

PPW was published in February 2024 with changes to chapter 6 to address the need to keep up momentum on fulfilling Wales our COP15 obligations and the Biodiversity Deep Dive recommendations.

Section 6.4 describes biodiversity and ecological and provides a summary of the Step Wise Approach and how it should be used to maintain and enhance biodiversity, build resilient ecological networks and deliver net benefits for biodiversity by ensuring that any adverse environmental affects are firstly avoided, then minimised and as a last resort compensated for.

The Stepwise Approach to maintaining and enhancing biodiversity.

The Stepwise Approach is for this green infrastructure plan / statement is based on the diagram provide dby PPW 12.

Step 1;

Avoid existing or potential important habitats or species and ecological connectivity corridors.

Step 2;

Minimise;

Step 3;

Mitigate / restore

Step 4;

Compensate

Existing green infrastructure (GI Baseline).

The elements that are considered to form the existing green infrastructure of the site and surrounding context are;

- Trees and hedges within the site
- Habitat of ecological value.
- Trees and hedges outside of the site.

The existing site is mainly made up of low level vegetation, grasses and extensively blackberry plants. There appears to be areas of concrete pathway beneath the vegetation when walking across the site.

Tree and Hedges within the site;

There are no hedges or trees within or adjacent to the application site.

Proposed green infrastructure (GI Strategy).

Ecological Enhancement Measures;

SuDS;

The application may require a sustainable drainage application to be agreed by the Statutory Authority Board (SAB) prior to any commencement of building works. The development will incorporate Sustainable drainage features such as permeable pavements which collectively will contribute to the effective management of storm water and reduce the risk of flooding.

Water Butts.

The proposals identify 2 no 210 litre water butts to aid in the relief of hydraulic loading on the existing surface water drainage system in the area.

Permeable Car Park Design, Surface Material;

The car parking areas and pathways on the site will be constructed using permeable paving materials. This will allow rainwater to infiltrate through the surface, reducing surface water run off.

Trees and hedge planting;

Due to the limited size of the plot, there is little scope to plant any trees. Any trees that are planted should not be allowed to reach maturity and not cause any future structural damage through root penetration to any adjacent structures. A course of maintenance to be implemented.

Landscape Strategy;

The proposed green infrastructure strategy would comprise a range of species, both native and non-native species to enhance biodiversity and botanical diversity. The species selected are adaptable to wet and dry conditions, including lengthy dry spells. The range of both trees and plant species diversity, the age diversity of vegetation and improve habitat to climate change.

The proposed green infrastructure strategy has considered the existing green infrastructure features within and beyond the site boundary, as recommended by the Stepwise approach. The proposed features would increase the biodiversity, species diversity and habitat structure on the site

Native Plant Landscaping;

The landscaping plan will prioritize native and drought resistant plant species that require minimal maintenance and water. This will create a habitat for local wild life and contribute to the connectivity of the area.

The proposed plans identify an area to the south east of the site for wildlife friendly native planting, this area to consist of the following low level planting:

Ox-eye Daisy (white)
Cornflower (blue)
Phacelia (purple)
Common Knapweed (pink)
Forget-me-not (blue)
Bird's-foot-trefoil (yellow)
Foxglove (pink, white, purple)
Viper's Bugloss (purple)
Poppy (red, yellow, orange)
Corn Marigold (yellow)

Trees; minimize removal – achieved.

Bird box 1:

Surface mounted House Sparrow Terrace bird box - Schwegler 1SP to be provided on the south west elevation under the eaves
Min of 2m above the adjacent ground level
Bird box retained for a MIN period of 5 years after occupation.

Bird box 2:

Surface mounted Schwegler Swift bird box ref No17B to be provided on the north / east elevation under the fascia board
Min of 2m above the adjacent ground level
Bird box retained for a MIN period of 5 years after occupation.

Bat box (2no.)

Schwegler IFQ surface mounted bat box on the south east facing wall Min of 3m above adjacent ground.

Bat box retained for a MIN period of 5 years after occupation.

Conclusion:

This Green Infrastructure aims to create a sustainable and environmentally friendly development, by incorporating permeable surfaces, native plant landscaping.

The proposed scheme will enhance local biodiversity, improve water management, provide aesthetic and ecological benefits to the area.

The proposed development will introduce new habitats associated with the site drainage and biodiversity enhancements in the form of bird and bat boxes. By protecting identified GI features of value, the scheme will also improve links with the surrounding landscape.

The statement aligns with current environmental standards and demonstrates a commitment to sustainable development practices. In conclusion, it has been demonstrated that the green infrastructure statement accords with the LDP along with national planning policy and guidance provided within Future Wales – the national plan 2040, PPW and TAN 5.