



BILBROOK NEIGHBOURHOOD PLAN

BB03 GREEN AND BLUE INFRASTRUCTURE

ADDITIONAL EVIDENCE AND RATIONALE (BLUE)

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BLUE INFRASTRUCTURE

Protecting blue infrastructure, such as rivers, lakes, and wetlands, in a local neighbourhood is crucial for several reasons:

Flood Mitigation

Blue infrastructure acts as a natural buffer against floods by absorbing excess water and reducing the risk of flooding in nearby areas. By preserving these water bodies, communities can minimise flood damage to homes, businesses, and infrastructure.

Figure 1 Bilbrook Flood Risk 2024

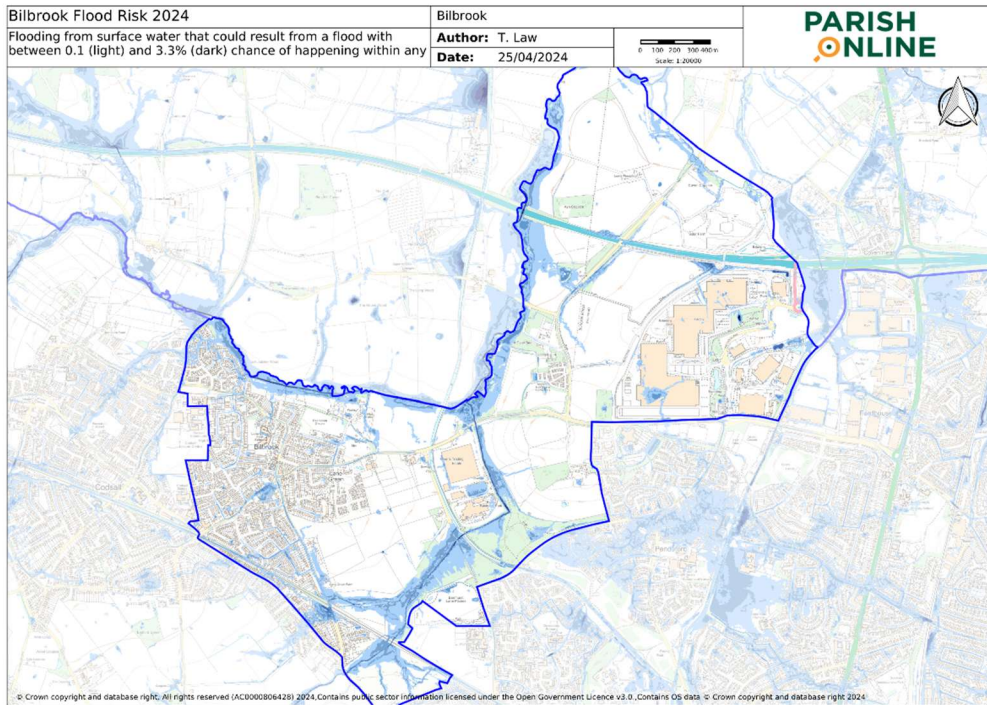


Figure 2 Flooding in Hubbard's Field 2024



Water Quality

Blue infrastructure helps maintain water quality by filtering pollutants and sediment from runoff before it enters waterways. Protecting these natural systems ensures clean water for drinking, recreation, and wildlife habitat.



Biodiversity Conservation

Rivers, streams, canals, ponds and wetlands provide habitats for a wide variety of plant and animal species. Protecting these ecosystems supports biodiversity, preserves endangered species, and maintains the balance of local ecosystems.

Figure 3 Wildlife on the Shropshire Union Canal



Recreation and Tourism

Blue infrastructure often serves as recreational areas for fishing, boating, and other outdoor activities. Preserving these natural spaces enhances the quality of life for residents and attracts tourists, benefiting the local economy.



Climate Resilience

Healthy blue infrastructure can contribute to climate resilience by storing carbon, mitigating the urban heat island effect, and providing shade and cooling in urban areas. These features help communities adapt to climate change impacts.

Community Well-being

Access to blue spaces has been linked to improved mental and physical health outcomes. Protecting local water bodies provides residents with opportunities for relaxation, exercise, and connection with nature, fostering community well-being.

Overall, safeguarding blue infrastructure in a local neighborhood is essential for maintaining environmental, social, and economic sustainability.

It should be noted that the main blue corridors of Moat Brook, the River Penk and the Shropshire Union Canal all form one large green/blue corridor that must be protected for the future.

The Shropshire Union Canal

The Canal is within 1km of Bilbrook Village Centre, and the towpath is used regularly by walkers, runners, cyclists or anyone with an interest in nature and getting out and exercising outdoors. The canal is used by fisherman, paddleboarders and canoeists.

The Canal is home to several fish species including perch, carp, and roach. There are the usual waterway invertebrates including iconic dragonfly and damselfly species. Kingfishers are a regular sight.

The canal is bordered by many tree species typical of British hedgerows, such as Oak, Ash, Hawthorn, Blackthorn and Elder. As the canal combines water with sheltered hedgerows, it is a crucial habitat for many plant, insect, bird and fish species. The southern end of the towpath within the Parish has DEFRA Priority Habitat Inventory status.



Figure 4 The Shropshire Union Canal in Bilbrook





Moat Brook

The Moat Brook provides a wildlife corridor connecting Pendeford Mill Nature Reserve and beyond Bilbrook Parish to Chillington Hall.

The brook has exceptionally high ecological value with grassland, a wetland area, water banks and trees. It provides habitat for many wildlife species including otters. The area mitigates against localised flooding and the increase in temperature due to the urban island heating effect.

Local Community Group the Friends of Bilbrook carry out regular water tests in Moat Brook, and this Plan notes their findings (see [FoB Moat Brook Water Tests 2014-2022](#)). River Fly surveys are also carried out by the group, always at the same location in the brook, with the following results over recent years:

- 20 08 2018 9
- 20 03 2019 17
- 24 06 2019 11
- 13 06 2020 8
- 14 10 2020 11
- 10 06 2021 11
- 01 10 2021 9
- 13 04 2022 7
- 08 06 2022 8
- 19 10 2022 8

Flooding regularly occurs on the natural floodplain of the Moat Brook, but due to its straightening in the 1800s and 1900s, a significant amount of floodwater flows downstream and out of the catchment, taking with it valuable soils and nutrients. In recent years work has been done by the Friends of Bilbrook to reduce this by the widening of the green corridors allowing the brook to flow in a more natural, unconstrained way.



Figure 5 A flooded Moat Brook in 2014



Figure 6 Re-naturalisation of Moat Brook



River Penk

Although in places small, River Penk offers a wildlife corridor, including large open space buffer to the South and east of the parish connecting Pendeford Mill Nature Reserve to the Shropshire Union canal, Shrewsbury Branch railway line, downstream to the M54 motorway and up-stream to Perton Parish. The river and its environs support vegetation and wildlife. The river also assists in mitigating against localised and downstream flooding, and the increase in temperature due to the urban island heating effect. Part of the bankside area of the river is designated as DEFRA Priority Habitat Inventory.



Figure 7 DEFRA Priority Habitat River Penk Banks © ParishOnline 2023

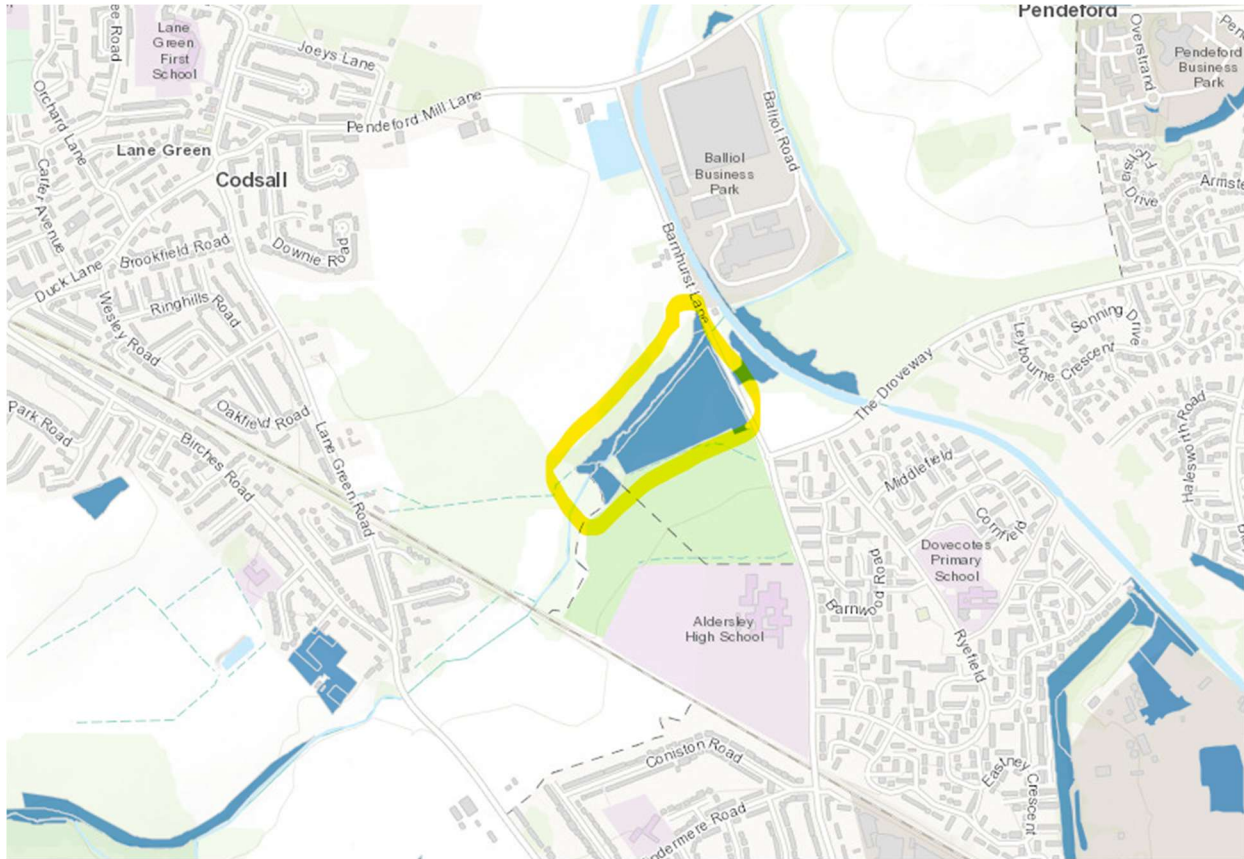




Figure 8 River Penk at Pendeford Mill Nature Reserve



Ponds: Permanent, Ephemeral, and Balancing

The Freshwater Habitats Trust states the following regarding ponds:

“Ponds can help us tackle many of the big environmental issues that affect us all: climate change, flooding and pollution. All this, as well as being fantastic for biodiversity. Ponds support an extraordinary two thirds of all freshwater species, and creating clean new ponds is one of the simplest and most effective ways to protect freshwater wildlife.

A pond doesn't have to have water in the whole year round; some ponds dry out some of the time and this is usually good for freshwater wildlife. After hundreds to thousands of years, ponds ultimately turn into – not dry land as you might expect – but temporary or seasonal ponds. These ponds are an important and highly threatened habitat type, many of which persist for millions of years.



It is important that these ponds are kept as they are and not made into more permanent ponds. That's because they have a range of specialised and rare plants and animals. Temporary ponds can be very rich in plant and animal life, particularly amphibians and invertebrates such as water beetles. One in four seasonal ponds in places such as woodland, old meadows and heathland, has a rare Red Data Book species. Temporary ponds are also important for wildlife because the occasional drought gets rid of fish (which are a major predator of insects and amphibians) allowing other species to thrive."

Figure 9 Pendeford Mill Nature Reserve main pool





Figure 10 Marshall Way Balancing Pond ©Google 2023

