Meon Vale
Long Marston, Stratford-upon-Avon, Warwickshire
Tyler Grange Group Limited & St Modwen Homes Limited

BIG Biodiversity Challenge Award Category: 3

Project overview
Meon Vale is a 190 ha mixed-use development. Construction commenced in 2012 and is almost complete. Ecological design principles were at the heart of the green infrastructure design, resulting in substantial biodiversity net gains (for both habitats and fauna), and with exceptional opportunities for public access to nature.

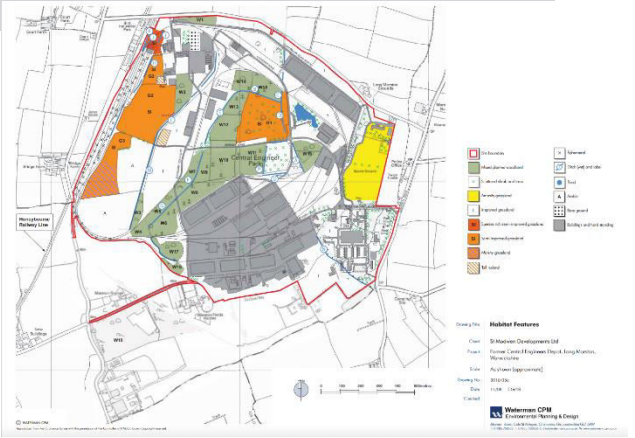
What were the biodiversity conditions on site, prior to the enhancement?
Baseline consisted of:

- buildings, hardstanding and improved grassland of low importance
- heavily modified and culverted watercourses, ponds, unmanaged mixed plantation woodland; and semi-improved grassland of local importance
- water vole (county importance) and badger, bats, birds, great crested newt, reptiles, saproxylic invertebrates (local importance)

Central to the success of the project was the close collaboration with the Warwickshire County Council (Ecology) and other consultees. In accordance with policy, the Warwickshire Biodiversity Impact Assessment Metric (a precursor to the Defra metric) was used to avoid areas of ecological value, and to focus development and habitat creation on areas of low value.

What were the reasons behind this project ?
The objective was to create a sustainable development including 1050 new homes on brownfield land. Policy required protection and enhancement of important existing flora and fauna, in accordance with local and national biodiversity priorities, and to encourage sustainable transport.

To maximise the development potential of the central area of the site, it was necessary to relocate the existing floodplain to 7 hectares of land occupied by close-mown improved grassland to the north, with the existing watercourses retained to convey water to the floodplain when required. This presented excellent opportunities for habitat creation, restoration and access to nature.



Baseline conditions

Ecology mitigation and enhancement strategy

What were the biodiversity measures taken?

The underlying ecological and green infrastructure design principles applied to this site are replicable elsewhere, but their success relied upon close collaboration with the client team and the decision makers.

The network of streams, mixed plantation woodland, neutral grassland and ponds were incorporated into the development design. The habitats are now managed, with the plantation woodland enhanced with rides created to improve structure, and provide access for walks and natural play.

The flood attenuation area was designed as a 7ha flood meadow comprising priority habitats (open water, reedbeds and wildflower grassland), with the formerly linear concrete-lined stream re-meandered through it. Together with the retained and restored habitats this creates a mosaic of priority habitats and corridors for wildlife dispersal within the site and beyond its boundaries. Monitoring surveys have confirmed the area now supports several red listed bird species, including Spoonbill, breeding Little Ringed Plover and Skylark, as well as a diverse invertebrate assemblage. Public access is designed to enable walking routes whilst retaining a large secluded area to avoid disturbance to birds.

250 m of culverted stream was restored to an open, natural channel.

Habitat monitoring, controlled by the S106 agreement, has confirmed desired states of most habitats has been reached or are on track.

The biodiversity metric confirmed a net gain of 38%. The habitats and the fauna they support was designated a Local Wildlife Site in 2021 in recognition of its ecological importance.

Bat mitigation included creation of two bat houses, relocation of a tree roost and boxes on trees and in houses. Monitoring has confirmed species diversity has increased, with Bechstein's bat, a first of the county, recorded.

The local community was engaged, including the new primary school, with nature walks, educational talks and the Meon Vale newsletter.

Flood meadow (Photo by Stuart Purfield)

Quinton Brook with created public access (Photo by Stuart Purfield)

Further information

The site demonstrates what can be achieved where site constraints can be turned into opportunities for biodiversity, public access to nature and wellbeing. The broad swathe of habitats within the development *'has secured a stepping stone critical to the future Local Nature Recovery Strategy and is an exemplary showcase on how development opportunities can help support ecological recovery strategies*' (David Lowe, Warwickshire County Council, 2023). Warwickshire Wildlife Trust (2017) stated in its members' magazine that it '*hopes that other developments take inspiration from this site, and maximise benefits of green infrastructure for people and wildlife*'.

Additionally, the multi-functional green infrastructure makes very efficient and economical use of land, combining flood requirements and other constraints with biodiversity benefits to deliver a '*sustainable and cost-effective green infrastructure design solution*' and an attractive environment (St Modwen Homes, 2023). The site also features as a positive case study in the district council's design SPD.

Project Team

Client: St Mowden Homes (SMH)

Consultant team: Tyler Grange, RPS, Barton Willmore, Turley, Wardell Armstrong, FLAC

What was the motivation for carrying out the enhancement?

SMH wished to create a sustainable, green infrastructure-lead development.

The multi-functional GI makes very efficient and economical use of land, combining flood requirements and other constraints with ecological benefits to deliver an attractive and very popular sense of place for the development.

SMH concluded that creating a new community with direct access to high quality GI enhances the value of the homes and land in the area.

SMH's surveys of new residents have returned complimentary responses, with many expressing thanks for the large and varied green spaces and wildlife.

Woodland ride (photo by Scott Brown, Tyler Grange)

bat house with bird and bat boxes attached (photo by Stuart Purfield)