

Hay Lane Access Road Hay Lane, Swindon, Wiltshire

J Murphy & Sons

BIG Biodiversity Challenge Award category: Medium Scale Permanent

Project overview

The project was to remove the existing railway bridge to allow for Overhead Line Equipment (OLE) to be installed as part of the Network Rail Great Western Electrification Project (GWEP) and the installation of an access road for the local community. Part of the scope was to improve the drainage systems to alleviate issues with pooling of water in the surrounding area under a land drainage consent.

What were the biodiversity conditions on site, prior to the enhancement?

The ecology survey identified the vegetation surrounding the existing bridge was comprised of a mixture of scrub and tussocky grass. The scrub was made up of Bramble and Hawthorn, and the tussocky grass was limited to sloping areas.

The existing biodiversity conditions provided suitable habitat to both nesting birds and common reptile species.

Were there any specific conditions that led to you carrying out this work?

A part of the Great Western Route pilot on 'no net loss in biodiversity' the project team looked to improve biodiversity to achieve a 'net gain' in biodiversity in the area.

This involved calculating the biodiversity value of the area prior to de-vegetation works using a tool developed by Parsons Brinkerhoff and calculating the resultant increase in value as a result of the landscaping works. These values were fed into the clients overall biodiversity data.



Embankment North side – 2 weeks following landscaping works

What were the biodiversity measures taken?

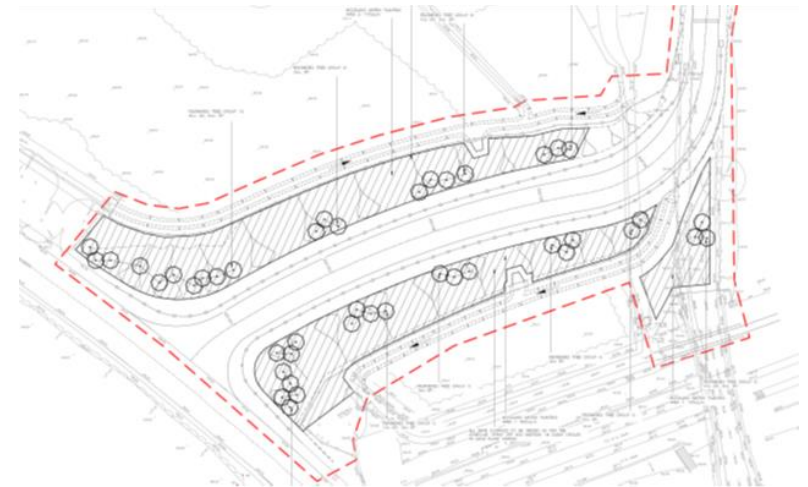
The project team looked to improve biodiversity following the installation of the new access road by engaging with the design partner and sub-contract team to plant:

- 40 native tree saplings including birch, oak and alder
- 1,600 native scrub species including maple common hazel, common hawthorn, blackthorn, common holly and dog rose
- 4,000m² of scrub woodland and embankment grass seeding

The Biodiversity Toolkit was used to calculate the biodiversity units, combined the planting works achieved 5 biodiversity units. Resulting in a Net Gain of 2.6 units, taking away the removal of 2.4 units for the project works through de-vegetation and grass cover removal.

The biodiversity enhancements in the area allowed connectivity to be maintained with existing habitat therefore providing habitat and refuge for bird species known to occur in the area. The vegetation also allowed for the natural stabilisation of the embankment, resulting in reduced soil erosion and silt run-off into the existing waterway at the bottom of the embankment. This has a significant impact on the water quality running off the embankment.

Top-soil and sub-soil on site was re-used to build up the embankments of the new access road. This resulted in the re-use of 546m² of soil under the Environment Agency Waste Exemption U1 – Use of Waste in Construction. The de-vegetation chippings were also re-used on site under exemption U13 – Spreading of Plant Matter to Confer Benefit. This assisted the project in achieving 92% of its total site waste being diverted from landfill and avoided the need to source virgin materials off-site, and the disposal of material off-site.



Landscaping design plan

How would you best describe the project?

An enhancement

Further information

De-vegetation works were completed prior to the bird nesting season (March-September) to avoid the risk of encountering and harming birds.

Grassland is now well established 4 months after the landscaping works were completed, achieving full ground cover along the north and south embankments.

The landscaping works won Sustainability Award for Contribution to Biodiversity from Network Rail, as the works achieved a Net Gain in Biodiversity Units.

What was your personal motivation for carrying out the enhancement?

As well as show commitment to our Clients pilot project on 'no net loss of biodiversity' and to demonstrate achievement of Murphy Group targets of carrying out biodiversity enhancements on our projects.

To ensure our works do not impact the surrounding environment negatively, and both ourselves and our Client, Network Rail, wanting to leave our worksites in a better state than when we found them.



Embankment North side – 4 months following landscaping works